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1330-B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

*I. Dynamac Corp, Hazleton Labs  
(1988) 2399-110 #271*

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FINAL REPORT

Study Title:

Subchronic Toxicity Study in Rats  
with p-Xylene

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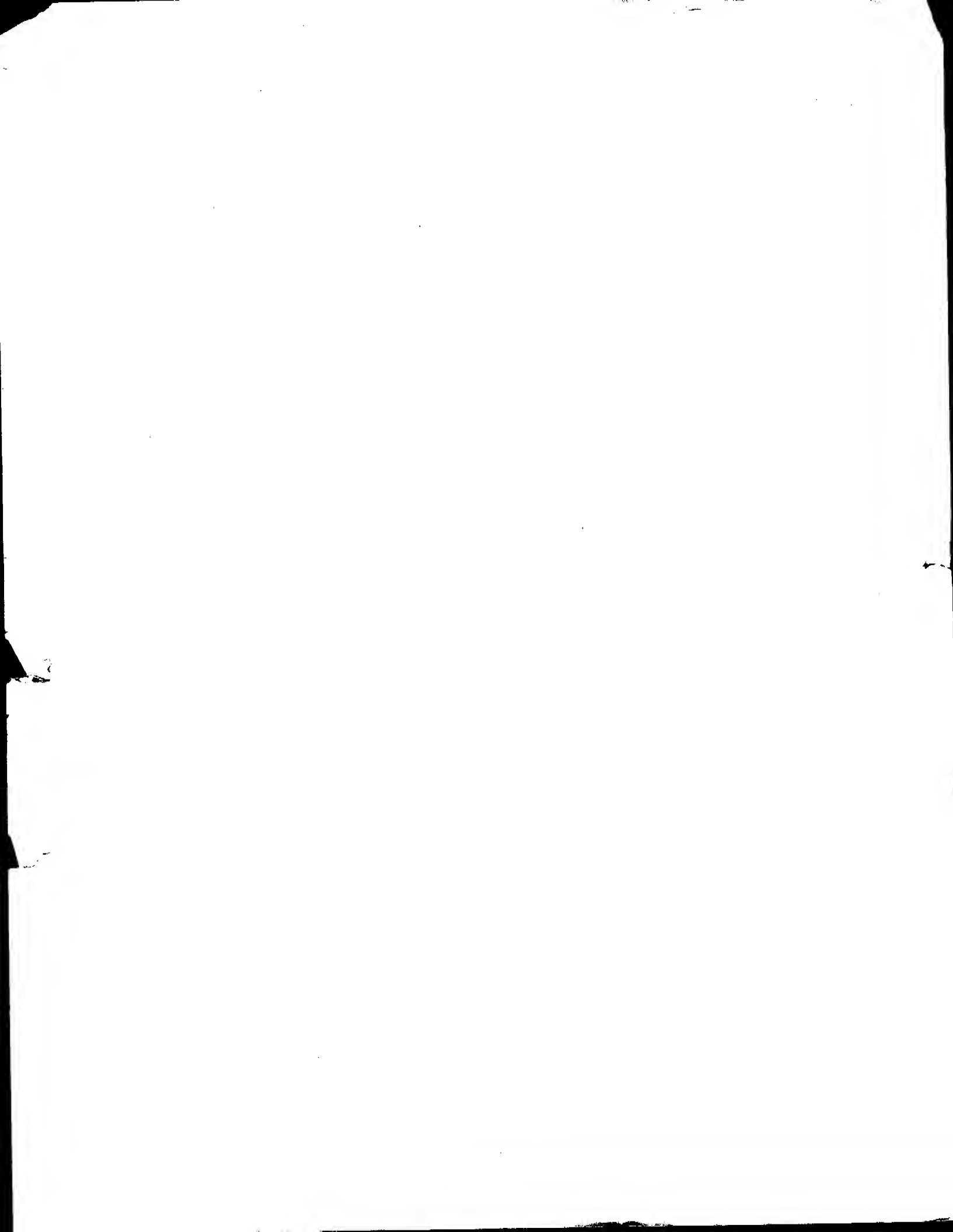
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Laboratory Project Identification:

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June 3, 1988





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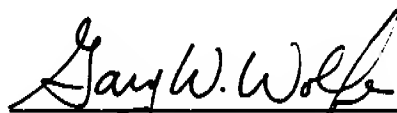
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COMPLIANCE STATEMENT

Subchronic Toxicity Study in Rats with p-Xylene

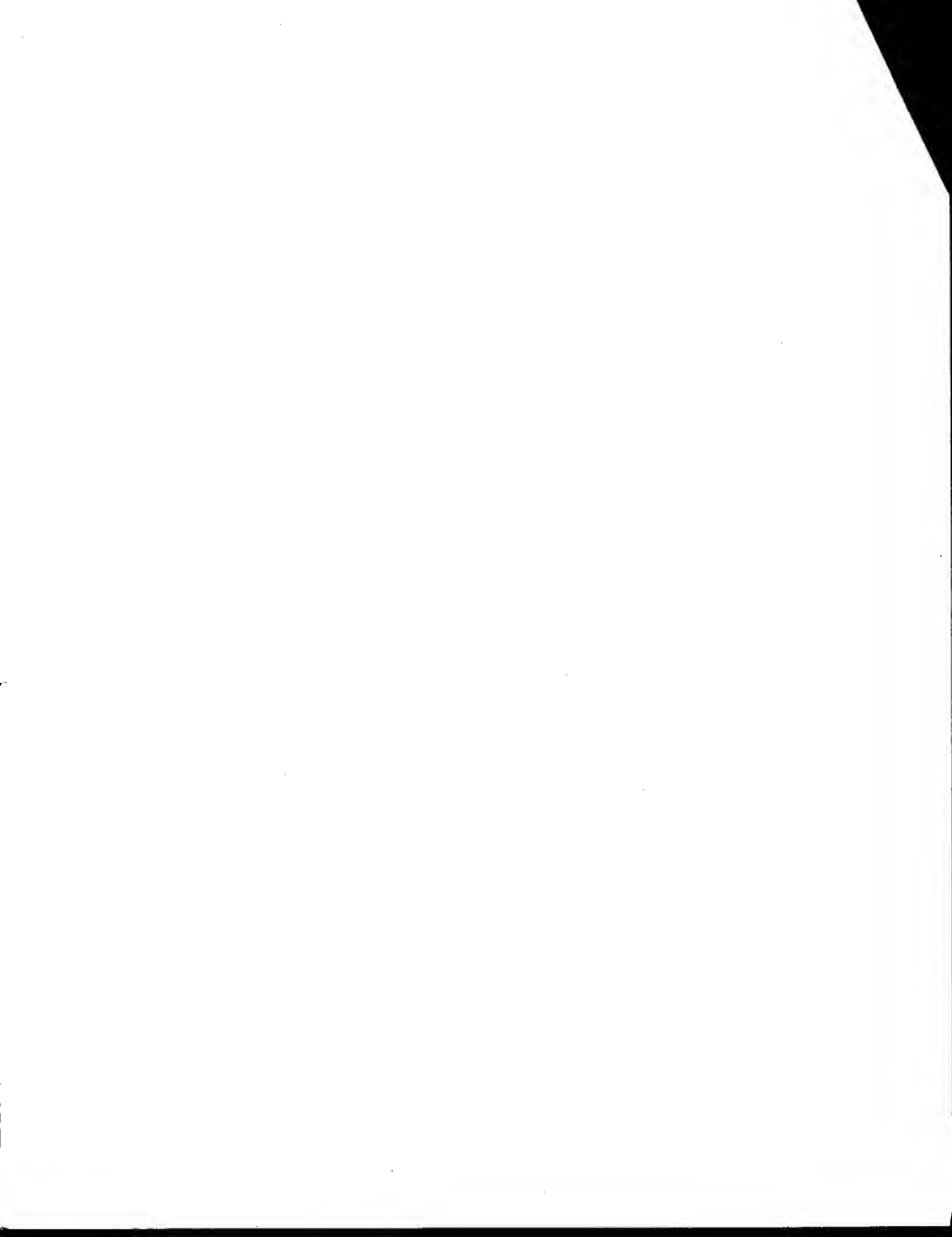
This study was conducted in compliance with the Good Laboratory Practice Regulations as set forth in Title 40 of the U.S. Code of Federal Regulations Part 160. There are no significant deviations from the aforementioned regulations which affected the quality or integrity of the study or the interpretation of the results in the report.

Study Director:

  
\_\_\_\_\_  
Gary W. Wolfe, Ph.D., D.A.B.T.  
Life Sciences Division

6/3/88

Date





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## QUALITY ASSURANCE UNIT

Project Title: Subchronic Toxicity Study in Rats with p-Xylene

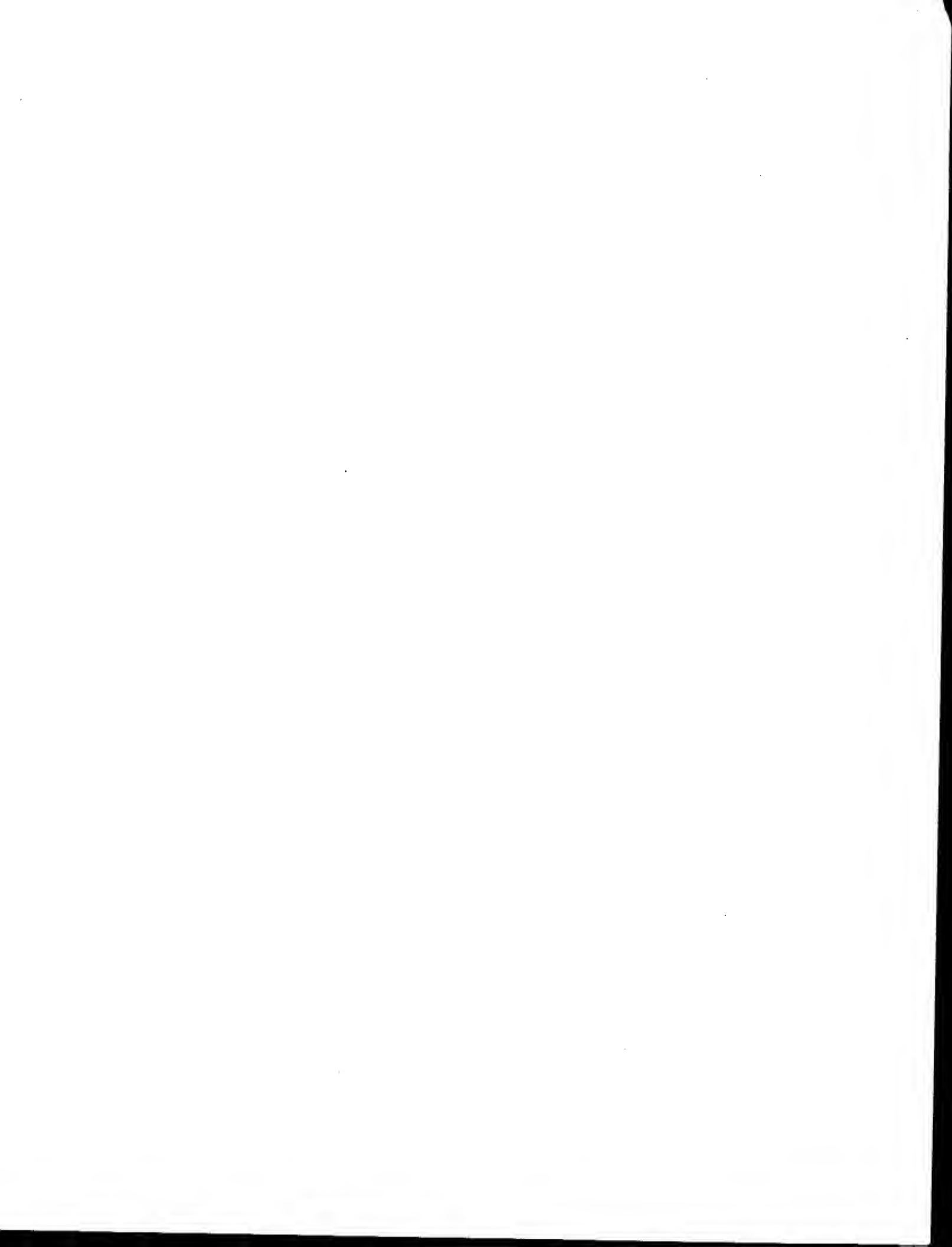
Project No.: 2399-110

Quality Assurance inspections of the study and review of the final report of the above referenced project were conducted according to the standard operating procedures of the Quality Assurance Unit and according to the general requirements of the Good Laboratory Practice Regulations issued by the Environmental Protection Agency for compliance on or after May 2, 1984. Findings from the inspections and the final report review were reported to management and to the study director on the following dates:

<u>Inspections/Review</u>	<u>Findings Reported</u>	<u>Inspector/Reviewer</u>
Protocol 4/10/86	4/10/86	D. Goldsteen
Inspection 1 4/22,23; 5/5/86	5/12/86	D. Goldsteen
Inspection 2 7/2,9,10,21/86	7/23/86	D. Goldsteen
Final Report 9/5,8-11,16,17/86	9/19/86	K. Glenn
Final Report 12/31/86; 1/5/87	1/9/87	K. Reilly
Final Report 5/31; 6/1/88	6/1/88	E. Jenkins

Elin Jenkins  
Final Report Reviewer  
Quality Assurance Unit

6/7/88  
Date Released





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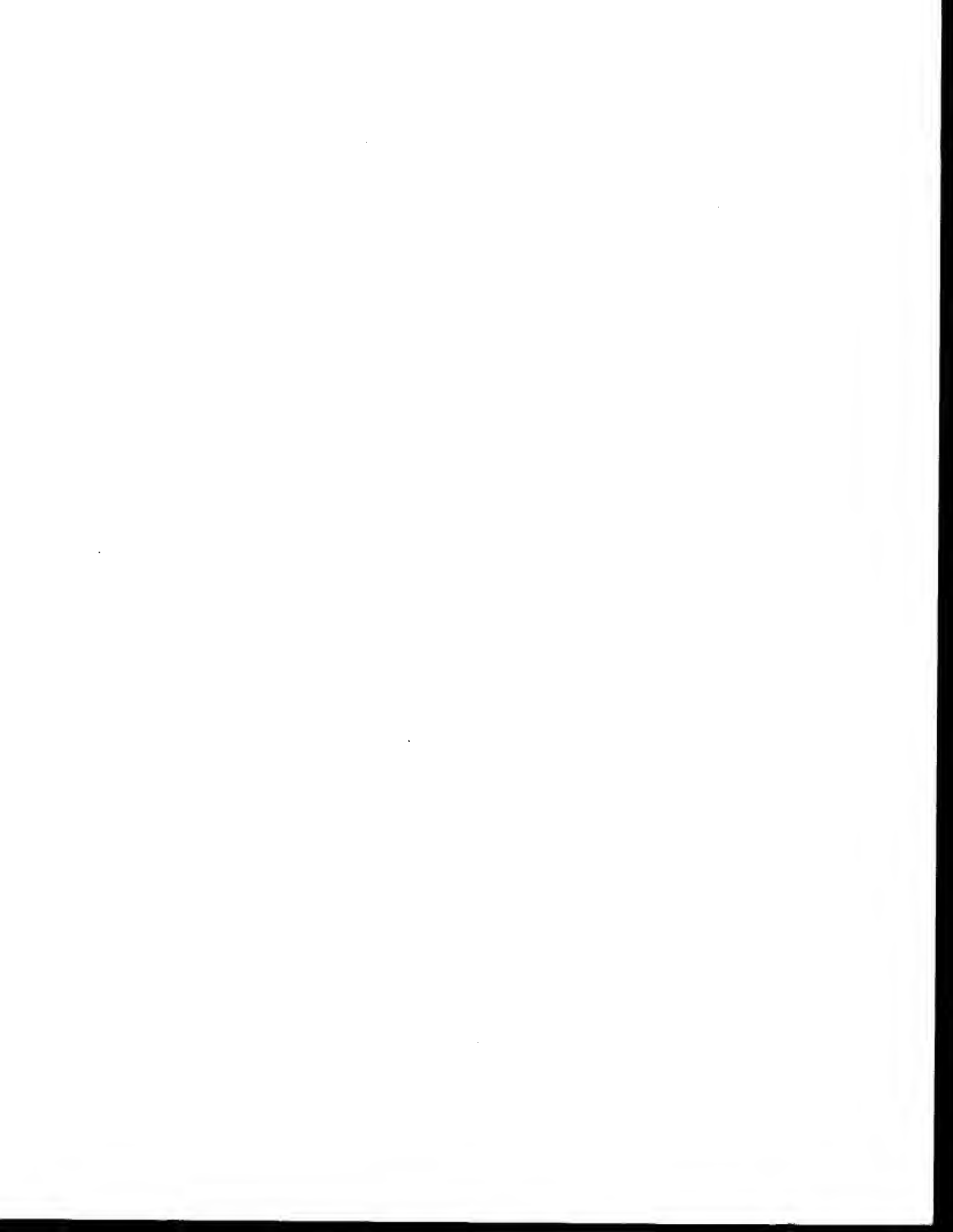
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**STUDY IDENTIFICATION**  
**Subchronic Toxicity Study in Rats with p-Xylene**

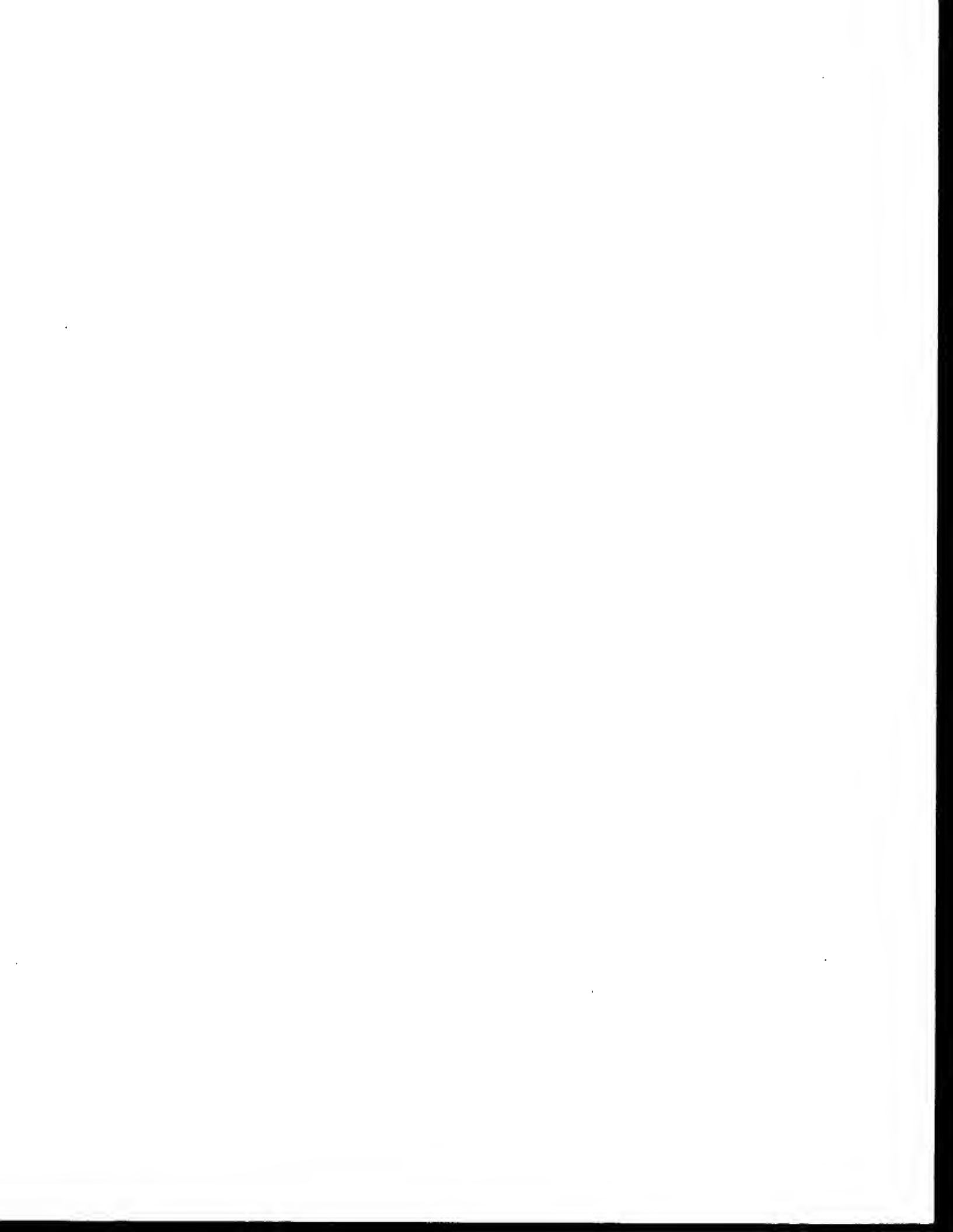
HLA Study Number	2399-110
Test Material	p-Xylene (CAS 106-42-3)
Sponsor/Study Monitor	Sharon Segal, Ph.D. Dynamac Corporation 11140 Rockville Pike Rockville, Maryland 20852 (301) 468-2500
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Study Timetable	
Initiation Date	April 17, 1986
Termination Date	July 23, 1986



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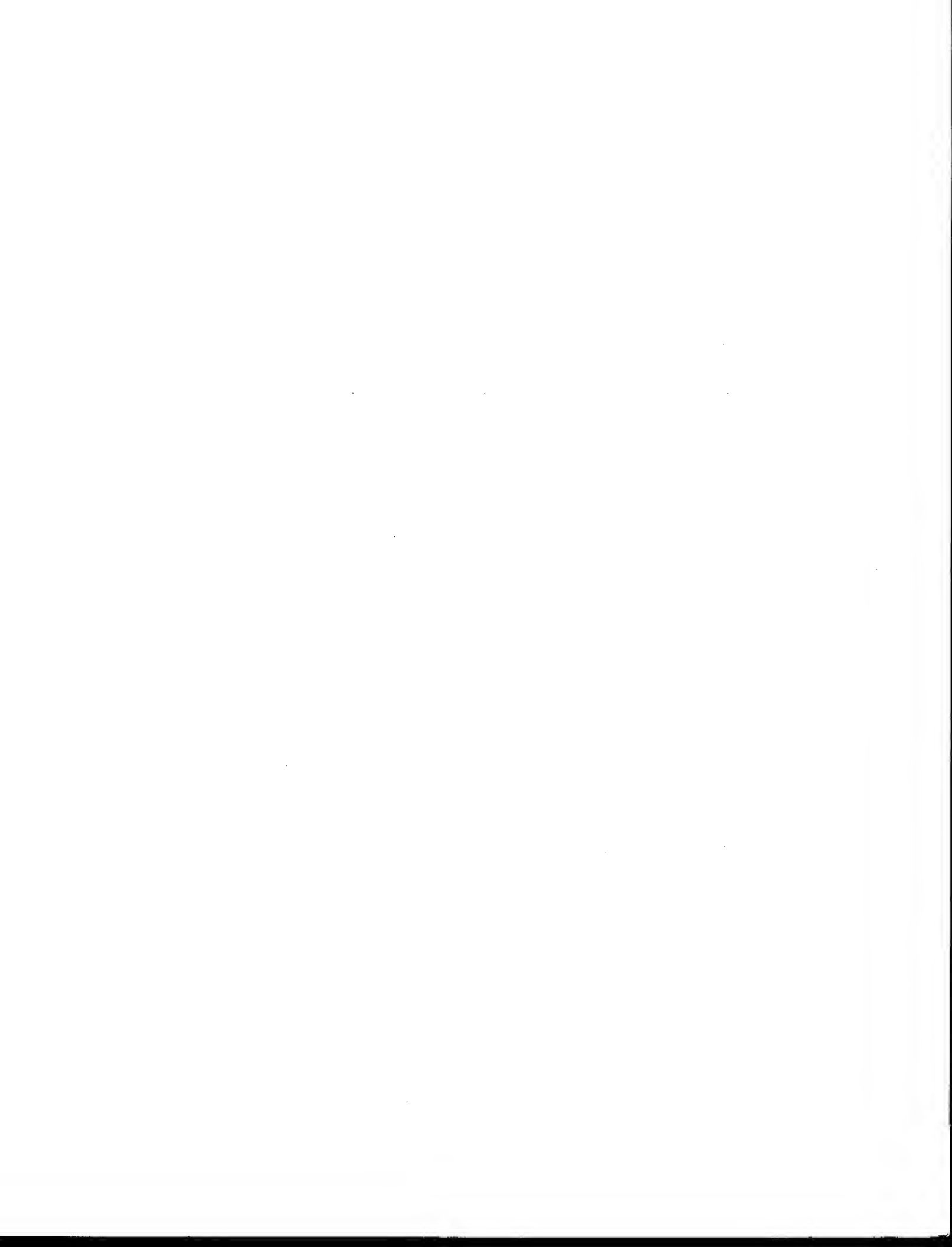
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#### SUMMARY

The test material, p-Xylene (CAS 106-42-3), was administered to male and female Sprague-Dawley rats by oral gavage in order to evaluate its subchronic toxicity. Dose levels were 0, 100, 200, and 800 mg/kg/day (Groups 1 through 4, respectively), with 20 animals/sex/group dosed daily for at least 90 days. Criteria evaluated included mortality, clinical signs, body weights, food consumption, ophthalmologic examinations, hematology, clinical chemistry, organ weights, organ-to-body weight ratios, gross pathology, and histopathology.

At least one animal in each treated group died before termination of the study and there was a significant increase in mortality in Group 4 males. However, based on histopathology findings, nearly all of the unscheduled deaths were related to aspiration of the vehicle/test material. Salivation was frequently observed and exclusively in both sexes of Group 4. Mean body weights were slightly decreased in Group 4 males and females while total food consumption was slightly increased in these groups. There was one incidental finding in the hematology results. In the clinical chemistries, a few significant differences were present in the Group 4 females at Week 5; however, none were present at Week 13. No apparent compound-related effects were present in the ophthalmology, organ weight, gross pathology, or histopathology data.

Based on the results of this study, with the consideration of vehicle/test material aspiration producing the deaths in the treated groups, the no-observed-effect level (NOEL) of p-Xylene was 200 mg/kg/day.





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## INTRODUCTION

The purpose of this study was to evaluate the subchronic toxicity of p-Xylene when administered to rats daily by oral gavage for 90 days. The study was conducted according to applicable EPA guidelines and the Good Laboratory Practice regulations.

A copy of the study protocol and all amendments are contained in Appendix 9. The study was initiated on April 17, 1986, and was terminated on July 23, 1986. The study was performed at the Rockville, Maryland, facility of Hazleton Laboratories America, Inc. (HLA).

## TEST MATERIAL

The test material, p-Xylene (CAS 106-42-3), Lot No. 235 855 was a clear, colorless liquid. It was received from Fluka Chemical Corporation, Hauppauge, New York, in three shipments (March 6, April 17, and April 30, 1986) and was stored frozen and protected from light. Dosing formulations were prepared using corn oil as the vehicle and were adjusted to 100% activity, based on a purity of 99%. The formulated test material was stored at room temperature.

Analyses for purity, stability, and dose concentration were performed on the test material.

## TEST ANIMALS

Sprague-Dawley rats were used in this study because they have historically been used in safety evaluation studies and were requested by the EPA. A total of 105 males and 105 females was received from Charles River Breeding Laboratories, Inc., Raleigh, North Carolina, on April 1, 1986. They were

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acclimated to laboratory conditions for approximately two weeks, making them 45 days of age at the time of study initiation. The body weights at initiation ranged from 199.1 to 257.8 g for the males and 144.9 to 192.1 g for the females.

The rats were uniquely identified by ear tags and cage cards and were housed individually in elevated wire-mesh cages. Commercial rodent diet (Purina Certified Rodent Chow® #5002) and acidified tap water were available ad libitum. The temperature and relative humidity in the animal room were recorded twice daily (with few exceptions) and ranged from 71 to 78°F and 31 to 69%, respectively. A 12-hour light/dark cycle was maintained daily via artificial illumination.

## METHODS

### Groups and Dose Levels

Following physical and ophthalmologic examinations, 85 clinically acceptable rats of each sex were assigned to treatment groups (shown below) using a computer weight randomization program. Animals not selected were assigned to another study or discarded without necropsy. Baseline groups were used for pretreatment bloodwork and later discarded without necropsy.

Group	<u>No. of Animals</u>		<u>Animal Numbers</u>		Dose Level (mg/kg/day)
	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>	
1 (Control)	20	20	8602-8621	8622-8641	0
2	20	20	8642-8661	8662-8681	100
3	20	20	8682-8701	8702-8721	200
4	20	20	8722-8741	8742-8761	800
5 (Baseline)	5	5	8762-8766	8767-8771	0



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#### Compound Preparation and Administration

Dosing solutions were prepared weekly according to the following procedure. For each dose level, the calculated amount of test material was weighed and transferred to a volumetric flask. Corn oil was added to achieve the final volume, then the flask was capped and inverted by hand until thoroughly mixed.

The formulated test material was administered to the animals by oral gavage daily for 13 weeks; control animals received the vehicle only. The dosing factor was 2.5 mL/kg.

#### Analytical Chemistry

The test material was analyzed for identity and purity prior to initiation of the study and again at termination for purity only. Formulated test material was analyzed for stability and dose concentration. The schedule and results of these analyses are included in the Analytical Chemistry Report (Appendix 9).

#### Observations and Records

All rats were observed for overt signs of toxicity daily, beginning about one hour after completion of dosing. In addition, a cursory exam was conducted during dosing. Complete physical examinations were performed at initiation and weekly thereafter. Mortality/moribundity checks were performed twice daily. Individual body weights were recorded during the randomization procedure, at initiation, and weekly thereafter. Food consumption was recorded weekly.

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Ophthalmoscopic Examinations

Ophthalmoscopic examinations were performed by a board-certified veterinary ophthalmologist on all animals to be used on study prior to treatment and on the last ten survivors per sex per group during Week 13. Pupils of both eyes were dilated prior to examination using 1% Atropine Sulfate.

Clinical Pathology

Clinical pathology determinations (shown below) were made on five animals per sex (Baseline group) prior to initiation and on the first ten survivors per sex per group during Weeks 5<sup>a</sup> and 13. Following an overnight fast, samples were collected via the orbital sinus while under carbon dioxide anesthesia.

## Hematology:

leukocyte count  
erythrocyte count  
hemoglobin  
hematocrit

platelet count  
differential leukocyte count  
reticulocyte count  
cell morphology

## Serum Chemistry:

sodium  
potassium  
chloride  
total protein  
albumin  
calcium  
phosphorus  
total bilirubin  
urea nitrogen

creatinine  
glucose  
SGOT/AST  
SGPT/ALT  
globulin  
alkaline phosphatase  
cholesterol  
albumin/globulin ratio  
lactate dehydrogenase

<sup>a</sup>Protocol-required bloodwork for Week 4 was actually performed during Week 5.



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### Tissue Preservation

The following tissues from each animal (when present) were preserved in 10% neutral buffered formalin:

all gross lesions	kidneys
brain with brainstem	adrenals
(medulla/pons, cerebellar cortex, and cerebral cortex)	pancreas
pituitary	testes
thyroid with parathyroids	ovaries
thymus	uterus
lungs	spleen
trachea	aorta
heart	esophagus
salivary glands (mandibular)	stomach (forestomach and glandular)
liver	duodenum, jejunum, ileum
sternum with bone marrow	colon, cecum, rectum
mammary gland	urinary bladder
thigh musculature	mesenteric lymph node
eyes	sciatic nerve
skin	femur including articular surface
epididymides	cervical spinal cord
prostate	mid-thoracic spinal cord
seminal vesicles	lumbar spinal cord
	exorbital lacrimal glands

### Histopathology

All preserved tissues from all animals were embedded in paraffin, sectioned, and stained with hematoxylin and eosin.

The following tissues were examined microscopically:

- (1) All tissues from control and high-dose animals and from all animals not surviving to termination.
- (2) Gross lesions, lungs, liver, and kidneys from all remaining animals.



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#### Sacrifice and Gross Pathology

All animals that died during the course of the study and all survivors sacrificed after 13 weeks of treatment were given a complete gross necropsy. The method of euthanasia was exsanguination while under sodium pentobarbital anesthesia. The necropsy included examination of the following:

- the external surface
- all orifices
- cranial cavity
- carcass
- external surface of the brain
- the thoracic, abdominal, and pelvic cavities and their viscera
- the tissues and organs of the neck region

At the terminal sacrifice, five animals per sex from the control group and 10 animals per sex from each treated group were selected for electron microscopy. A separate report, including methods and results, is to be submitted to the Sponsor by the performing laboratory.

#### Organ Weights

The following organs were weighed for each terminally-sacrificed animal.

liver	brain with stem
kidney	heart
spleen	testes with epididymides
adrenal glands	ovaries

Organ-to-body weight ratios were calculated using each animal's terminal body weight.



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### Statistical Analysis

Cumulative survival data were analyzed using the National Cancer Institute Package (Life Table Analysis). Trend analysis of survival was evaluated at the 5.0% one-tailed probability level.

Body weight, food consumption, appropriate clinical pathology data, and organ weight data from the control group were compared to those of the treated groups of the same sex. Statistical analyses were performed as diagrammed in Figure 1. Tests for homogeneity of variances and ANOVA were evaluated at the 5.0% one-tailed probability level. Control vs. treated group means were evaluated using Dunnett's t-test at the 5.0% two-tailed probability level.

Data transformations were performed when variances were heterogeneous (see Figure 1) and are indicated in the tables by the appropriate superscript next to the control group mean:

- A = Data analyzed following log<sub>10</sub> transformation
- B = Data analyzed following square ( $x^2$ ) transformation
- C = Data analyzed following square root ( $x^{1/2}$ ) transformation
- D = Data analyzed following reciprocal ( $1/x$ ) transformation
- E = Data analyzed following angular (arcsine  $x^{1/2}$ ) transformation
- F = Data analyzed following rank transformation

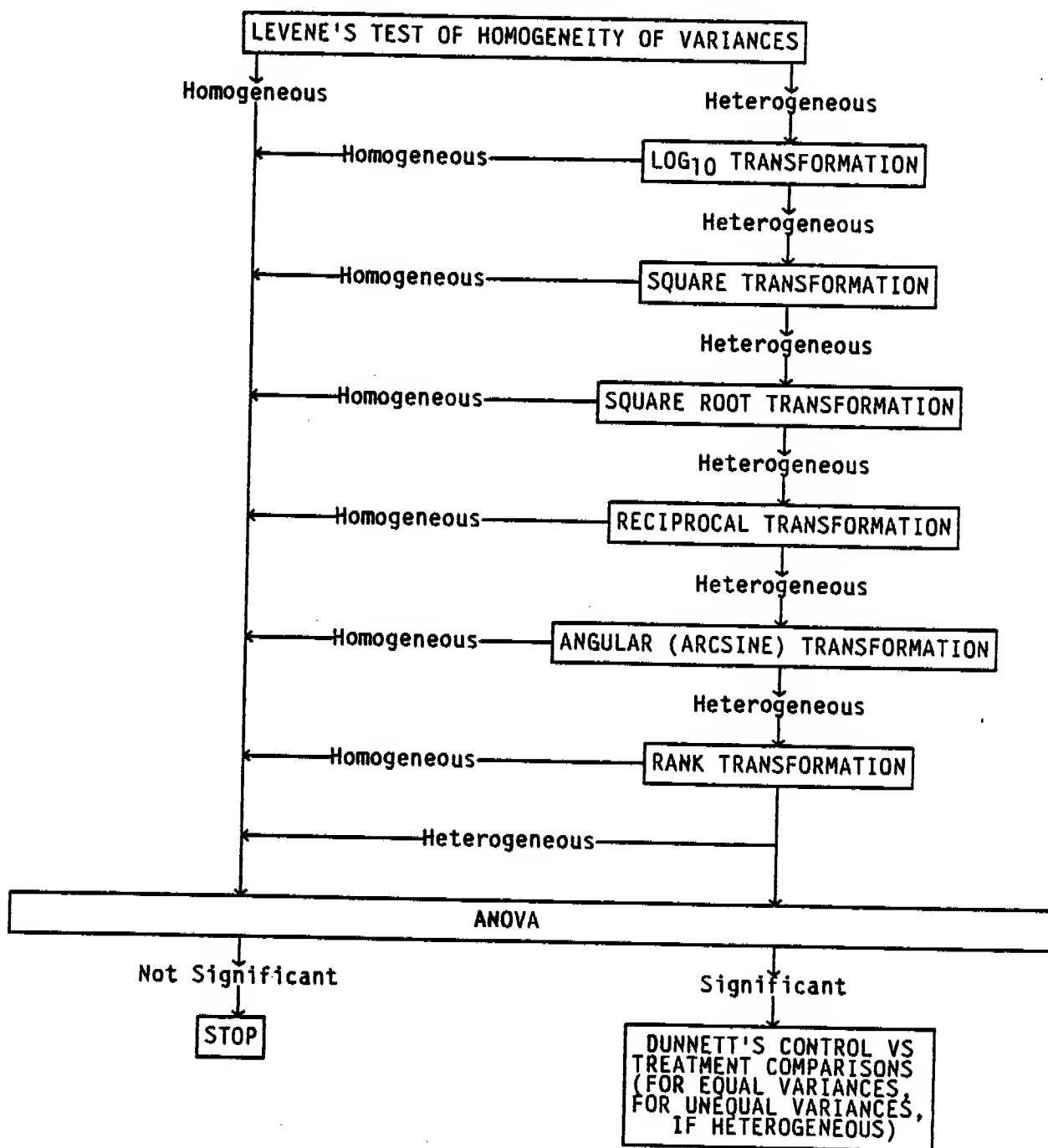
Throughout this report, when an effect is referred to as "significant", it means there is a statistically significant difference between the control group and the specified treated group of the same sex. Statistical significance is indicated in the tables by an "s" superscript next to the treated group mean.

### Raw Data and Final Report Storage

All raw data and the final report are stored in the archives of Hazleton Laboratories America, Inc.

FIGURE 1

FLOWCHART OF ANOVA AND RELATED METHODS



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## RESULTS

### Mortality

Group survival data, by week of study, are presented in Table 1. Individual animal disposition is presented in Appendix 1.

In the Group 4 males, there was significantly higher mortality. There was also a significant trend for increased mortality in the males. There were no significant differences in mortality in the female groups and no significant trend was present.

### Clinical Signs

A summary incidence of weekly clinical signs is presented in Table 2; individual data are presented in Appendix 2. A summary incidence of daily observations is presented in Table 3 (signs with only a single occurrence are not included).

The most commonly observed weekly clinical signs were malocclusion, chromodacryorrhea, sores, and salivation. Of these, only salivation showed a compound effect: it was seen only in both sexes of Group 4. Sores were seen mostly on the ears and were probably due to the method of identification (ear tag).

Daily observations included sensitivity to touch and salivation. the former had such a low incidence (observed twice during the study) that it was not considered important. Salivation, however, was observed frequently during every study week except the first, and it occurred only in Group 4 (both sexes). Generally, it was observed just prior to dosing and the animals were back to normal by the one-hour post-dosing observations.

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#### Body Weights and Food Consumption

Mean body weights are presented in Tables 4A (Mean Body Weights), 4B (Body Weight Change) and graphically in Figure 2; individual values are presented in Appendix 3. Food consumption data are presented in Tables 5A (Weekly Mean Values), 5B (Total Food Consumption at Selected Intervals) and graphically in Figure 3; individual values are presented in Appendix 4.

The mean body weights of both sexes of Group 4 were lower than the other groups. There was no significant difference in total body weight gain between the control and treated groups of either sex, nor was there a significant difference in mean body weights at Week 13.

While body weights were slightly lower in Group 4 males and females, food consumption was generally highest in Group 4 of both sexes. Total food consumption was significantly increased in the Group 4 females for Weeks 10-13.

#### Ophthalmoscopic Examinations

Individual ophthalmoscopic findings and copies of the ophthalmologist's reports are presented in Appendix 5.

No ocular abnormalities were seen in any of the animals at the terminal examination.

#### Clinical Pathology

Mean hematology values are presented in Table 6; individual values are presented in Appendix 6. Mean clinical chemistry values are presented in Table 7; individual values are presented in Appendix 7.

There was no significant differences in any hematology parameters in the treated groups of either sex at Week 5. The only significant difference at Week 13 was in segmented neutrophils, which were decreased in the Group 3 males.

FIGURE 2 - MEAN BODY WEIGHTS

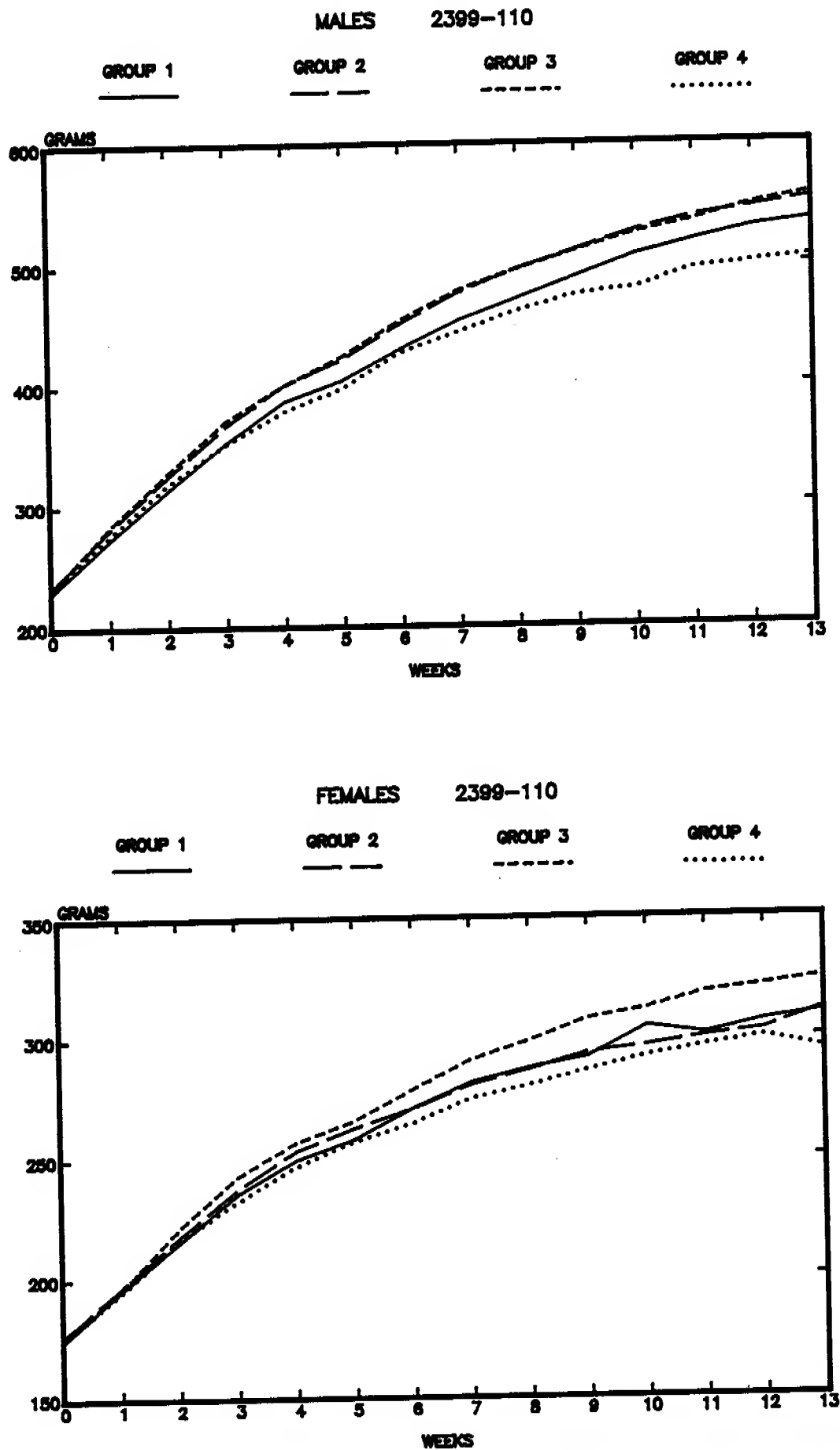
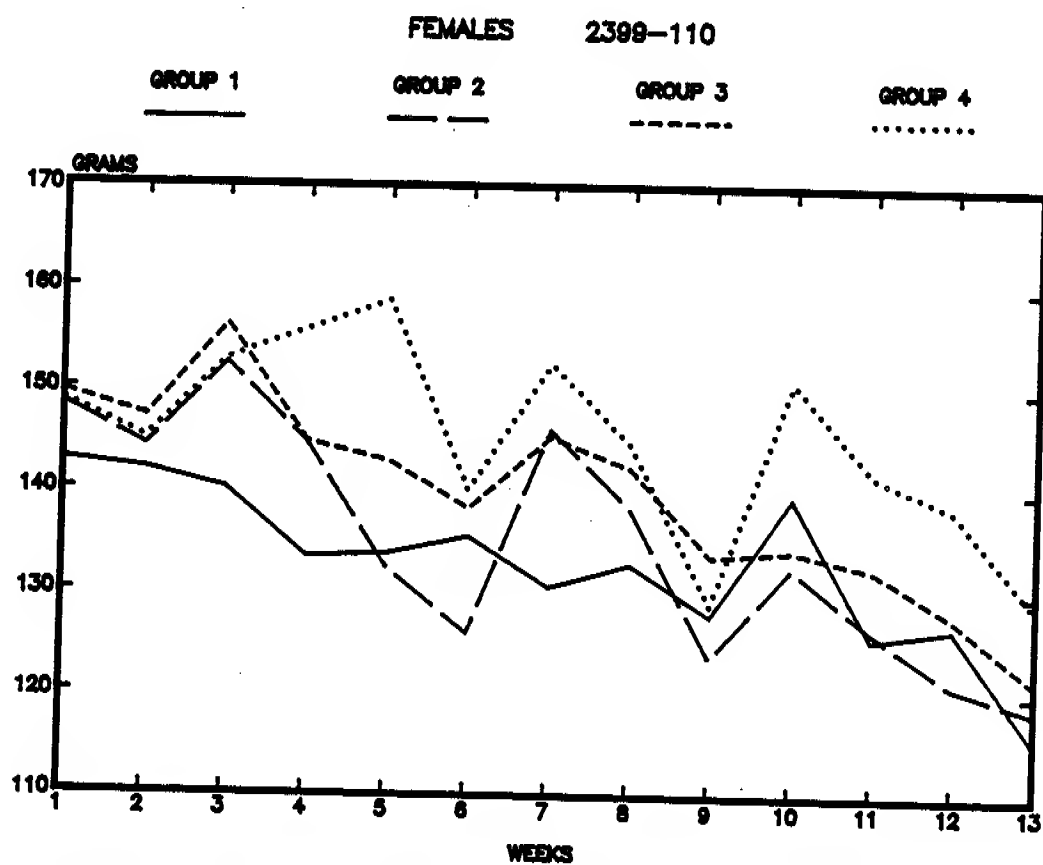
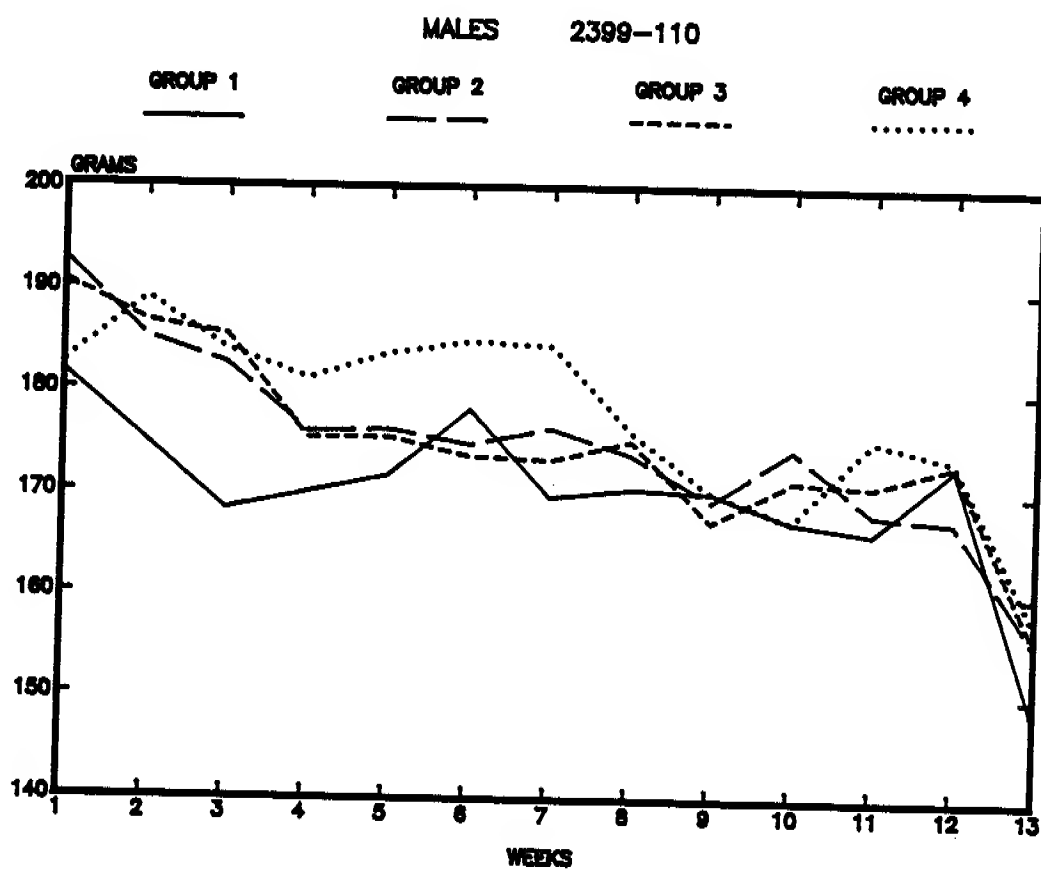


FIGURE 3 - MEAN FOOD CONSUMPTION



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There were a few significant differences in clinical chemistry parameters at Week 5, all in the Group 4 females: phosphorus, cholesterol, and alanine aminotransferase were all increased. However, there were no significant changes in either sex at Week 13.

#### Organ Weights and Organ-to-Body Weight Ratios

Mean organ weights (absolute) and organ-to-body weight ratios (relative) are presented in Tables 8 and 9, respectively; individual values are presented in Appendix 8.

There were no significant differences between the control and treated groups of either sex in any of the absolute or relative organ weights.

#### Gross Pathology

Gross pathology incidence summaries are presented in Tables 10A (Terminal Sacrifice) and 10B (Unscheduled Deaths); individual gross observations are presented in Appendix 8.

Few gross lesions were observed at necropsy. Most of these were infrequent and showed no dose relationship. Mottled lungs and failure of the lungs to collapse were seen more frequently than other lesions and only in unscheduled deaths.

#### Histopathology

Histopathology incidence summaries are presented in Tables 11A (Terminal Sacrifice) and 11B (Unscheduled Deaths); individual data are presented in Appendix 8. Evaluation of microscopic findings is included in the Pathology Summary.

In both treated and control animals, lesions were present in the liver (e.g., mononuclear cell infiltrates, subacute inflammation, fatty change) and kidneys (e.g., tubular regeneration, focal mononuclear cell



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infiltrates, interstitial fibrosis). Intra-alveolar foreign material was present in the lungs of nearly all unscheduled deaths. This finding was often associated with congestion and appeared to be secondary to vehicle and/or test material aspiration. Various incidental lesions were present in all groups without relation to treatment. In the tissues examined, no specific compound-related histopathologic alterations were present.

#### Analytical Chemistry

Analytical chemistry methods and results are included as Appendix 9.

Stability data showed that after 21 days there was no loss for samples stored at 5°C and a mean loss of less than 1% for samples stored at room temperature. Dose verification analyses showed that all samples analyzed were within the specified limits ( $\pm 10\%$  of target concentration).



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## DISCUSSION

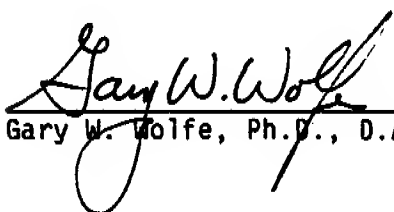
Xylene (mixed) is a mixture of m-Xylene, p-Xylene, o-Xylene, and ethylbenzene. The exact proportion is variable and depends on the material (petroleum or coal tar) from which it is produced. In this study the p-Xylene (99% purity) was tested. In previous studies with xylenes (mixed) conducted by the NTP in rats, deaths were noted at 4,000 and 6,000 mg/kg in a single dose study and at 2,000 mg/kg in a 14-day study. In the 13-week study all rats at dose levels up to 1,000 mg/kg survived to termination. Also mean body weights were 15% and 8% lower than control in the males and females, respectively. No signs of clinical toxicity were observed, and no compound-related gross or microscopic lesions were observed. In a 2-year study, males dosed at 1,000 mg/kg had a slightly higher mortality rate than did vehicle controls, but the number of gavage deaths were also higher. It was postulated that the dosed males resisted gavaging because of the xylenes. In the 2-year study, no nonneoplastic or neoplastic lesions resulted from exposure to xylene(mixed).

In this 90-day study conducted with the p-xylene isomer, mortality was noted in all groups and was significantly increased in the Group 4 males. Additionally, the incidence of salivation was increased in the Group 4 males and females, and mean body weights were slightly decreased with food consumption slightly increased in Group 4 males and females. Histopathology revealed no compound-related changes. The deaths in the treated groups are most likely the result of vehicle/test material aspiration since there was no physical evidence of trauma (perforated trachea and/or esophagus) and the low vapor pressure of xylene (about 10 mmHg at 28°C). Although the findings in this study suggest that p-Xylene is slightly more toxic than xylene (mixed), these findings are generally consistent with those noted by the NTP using xylene (mixed).


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Based on the results of this study, with the assumption of vehicle and/or test material aspiration producing the deaths in the treated animals, the no-observed-effect-level (NOEL) of p-Xylene was 200 mg/kg/day.

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Study Coordinator:

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## PATHOLOGY SUMMARY

## Subchronic Toxicity Study in Rats with p-Xylene

One-hundred-sixty Sprague-Dawley rats (80 males, 80 females) were divided into four groups as noted below:

<u>Group Number</u>	<u>Number of Animals/Sex/Group</u>	<u>Dosage Levels mg/kg/day</u>
1 (Control)	20	0
2 (Low)	20	100
3 (Mid)	20	200
4 (High)	20	800

After 13 weeks of compound administration, animals were necropsied and tissues were fixed in 10% neutral buffered formalin and examined microscopically according to protocol specifications. All tissues from animals in Groups 1 and 4 and all unscheduled deaths from Groups 2 and 3 were evaluated histologically. In the remaining animals, only lungs, livers, kidneys, and gross lesions were evaluated.

There were no specific compound-related histopathologic lesions present in the treatment groups examined. The remarkable findings present in the livers of both treatment and control rats included portal mononuclear cell infiltrates, subacute inflammation, and fatty change. In one Group 3 and three Group 4 male rats (all unscheduled deaths), cytoplasmic hyaline inclusions were present. The nature of these cytoplasmic inclusions was unclear; however, the low overall incidence, presence only in males, and absence in terminally sacrificed rats suggested this finding may have little biologic significance.

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The most remarkable lung finding was present in nearly all of the unscheduled deaths and consisted of intra-alveolar foreign material. This finding was often associated with congestion and appears secondary to vehicle and/or compound aspiration. Intra-alveolar macrophages and interstitial pneumonia were generally present in both control and treated animals and were not specifically associated with aspiration of the compound. In the kidney, remarkable findings in all groups included tabular regeneration, focal mononuclear cell infiltrates, and interstitial fibrosis, all of which were consistent with typical early rat nephropathy. There were no major differences between control and treated animals.

Various spontaneous and incidental lesions were present in all groups at the expected incidence and frequency for rats of this age and strain. Most findings were scored minimal to slight and occurred without relation to treatment.

In conclusion, the administration of p-Xylene to rats for 90 days resulted in no specific compound-related histopathological alterations.

Pathologist:

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TABLE 1  
Adjusted Survival

	WEEK													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13
<u>Males</u>														
Group 1	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20
Group 2	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20
Group 3	20/20	20/20	20/20	20/20	20/20	18/20	18/20	18/20	18/20	18/20	18/20	17/20	17/20	17/20
Group 4	20/20	20/20	20/20	20/20	20/20	18/20	18/20	18/20	17/20	17/20	16/20	16/20	16/20	16/20
<u>Females</u>														
Group 1	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20
Group 2	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	19/20	19/20	19/20	18/20	18/20	18/20
Group 3	20/20	19/20	19/20	19/20	19/20	19/20	19/20	19/20	18/20	18/20	18/20	18/20	18/20	18/20
Group 4	20/20	19/20	19/20	19/20	19/20	19/20	18/20	17/20	17/20	17/20	17/20	17/20	17/20	17/20

TABLE 2  
SUMMARY INCIDENCE OF CLINICAL SIGNS <sup>a</sup>

OBSERVATION	MALES					FEMALES				
	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 1	GROUP 2
THIN	1	0	0	0	0	0	0	1	0	0
TEETH CUT	1	2	2	1	0	2	0	0	0	0
HALOCCCLUSION	2	2	2	1	1	2	1	0	0	0
APPEARANCE / OTHER <sup>b</sup>	0	0	0	0	0	0	0	1	0	0
LANGUID	1	0	0	0	0	0	0	0	0	0
SENSITIVE TO TOUCH	0	1	2	0	0	1	0	0	0	0
SALIVATION	0	0	0	7	0	0	0	10	0	0
SOFT FECES	1	0	0	0	0	0	0	0	0	0
EXCRETIONS / OTHER <sup>c</sup>	0	0	0	0	0	0	0	0	0	0
DYSPNEA	1	0	1	0	0	0	0	0	0	0
URINE STAINS	0	0	0	0	0	0	0	1	0	0
ALOPECIA	0	1	1	0	2	1	3	0	0	0
ROUGH HAIRCOAT	1	0	0	0	0	0	0	0	0	0
SORES	4	10	10	11	9	8	5	7	0	0
SKIN / OTHER <sup>d</sup>	0	0	0	0	0	1	0	0	0	0
OPAGUE	2	1	1	0	0	0	0	0	0	0
CHROMODACRYORRHEA	2	1	3	1	2	2	1	0	1	1
EXOPHTHALMUS	0	0	0	0	0	0	1	1	1	1
ULCERATED	0	0	0	0	0	0	0	0	0	0
EYES / OTHER <sup>e</sup>	0	0	0	0	0	0	0	0	0	0
SWOLLEN	0	0	0	0	0	0	0	0	0	0
MISSING <sup>f</sup>	0	0	0	0	0	0	0	0	0	0
SMALL MOVEABLE TISSUE MASS	0	0	0	0	0	0	0	0	0	0

<sup>a</sup> Total number of animals showing sign during the study.

<sup>b</sup> teeth missing

<sup>c</sup> blood in urine

<sup>d</sup> ear torn

<sup>e</sup> red film over eye

<sup>f</sup> right eye

TABLE 3  
INCIDENCE OF DAILY OBSERVATIONS<sup>a</sup>  
(WEEKLY TOTALS, BY SEX AND GROUP)  
Incidence of Sensitive to Touch

	WEEK													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14 <sup>b</sup>
<u>Males</u>														
Group 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 4	2/20	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Females</u>														
Group 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-

<sup>a</sup>Number of observations during week/number of survivors in group at beginning of week. Dash indicates no incidence during week.

<sup>b</sup>Partial week (terminal sacrifice).

TABLE 3  
INCIDENCE OF DAILY OBSERVATIONS<sup>a</sup>  
(WEEKLY TOTALS, BY SEX AND GROUP)  
Incidence of Salivation

	WEEK													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14 <sup>b</sup>
<u>Males</u>														
Group 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 4	-	19/20	66/20	68/20	31/20	39/18	49/18	35/18	40/17	31/17	38/16	24/16	21/16	20/16
<u>Females</u>														
Group 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Group 4	-	16/19	60/19	54/19	39/19	60/19	55/18	55/17	55/17	46/17	59/17	47/17	35/17	26/17

<sup>a</sup>Number of observations during week/number of survivors in group at beginning of week. Dash indicates no incidence during week.

<sup>b</sup>Partial week (terminal sacrifice).

TABLE 4A  
MEAN BODY WEIGHTS AND STANDARD DEVIATIONS (G)  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND  
DOSE LEVEL  
(MG/KG)

WEEK: START	1	2	3	4	5	6	7	8	9	10	11	12	13
MALES													
1	MEAN 229.6	272.8	313.9	352.9	387.2	404.5	430.6	453.7	471.3	489.2	506.8	518.6	529.4
	S.D. 12.84	17.77	17.21	21.02	27.17	34.27	37.27	43.06	46.78	49.57	52.77	58.01	58.82
.000	N 20	20	20	20	20	20	20	20	20	20	20	20	20
2	MEAN 233.6	281.7	325.3	367.1	400.9	422.0	451.2	476.7	496.0	511.5	526.8	538.6	545.9
	S.D. 11.79	12.72	18.03	19.80	25.42	29.17	32.90	33.09	34.19	39.42	44.58	47.14	53.69
100.000	N 28	20	20	20	20	20	20	20	20	20	20	20	20
3	MEAN 231.8	283.8	328.4	371.2	400.5	424.7	454.4	478.7	495.8	510.7	525.6	535.0	548.3
	S.D. 10.56	11.74	18.15	21.29	41.48	33.48	36.41	40.35	45.47	47.24	48.93	51.34	52.84
200.000	N 20	20	20	20	20	18	18	18	18	18	18	17	17
4	MEAN 232.7	275.6	318.6	351.8	378.7	397.7	427.4	443.9	461.0	474.1	479.3	495.2	500.0
	S.D. 9.73	19.52	20.25	21.46	31.28	36.02	37.90	46.66	44.12	46.78	49.88	55.28	53.55
800.000	N 20	20	20	20	20	18	18	18	17	17	16	16	16
FEMALES													
1	MEAN 174.8	195.9	215.8	235.6	249.6	258.2	270.9	281.5	287.3	291.6	304.0	300.9	306.5
	S.D. 6.62	8.71	10.09	13.57	16.79	16.52	19.31	19.14	22.11	26.93	28.43	29.95	30.23
.000	N 20	20	20	20	20	20	20	20	20	20	20	20	20
2	MEAN 176.8	197.2	217.9	237.5	253.4	262.7	270.9	280.4	286.6	293.5	296.2	299.9	302.6
	S.D. 7.15	10.22	14.39	16.18	19.81	18.51	25.19	27.34	25.62	27.32	28.23	30.81	31.83
100.000	N 20	20	20	20	20	20	20	20	19	19	19	18	18
3	MEAN 175.8	196.1	221.7	242.7	256.9	265.7	278.6	290.7	298.6	307.6	311.7	318.3	321.2
	S.D. 10.21	14.03	11.02	14.02	14.06	15.50	19.71	17.27	22.49	21.21	22.82	22.89	24.06
200.000	N 20	19	19	19	19	19	19	19	18	18	18	18	18
4	MEAN 175.4	194.9	216.8	232.4	246.8	257.2	264.7	274.7	280.0	286.1	291.8	296.0	299.7
	S.D. 6.73	12.10	13.69	16.10	20.79	16.60	11.18	16.06	15.54	18.60	16.51	16.03	17.91
800.000	N 20	19	19	19	19	19	18	17	17	17	17	17	17



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TABLE 48  
MEAN BODY WEIGHT CHANGE (G)  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSE LEVEL (MG/KG)	0 - 13		WEEK	
MALES				
1	MEAN	305.9		
.000	S.D.	63.93		
	N	20		
2	MEAN	320.7		
100.000	S.D.	53.53		
	N	19		
3	MEAN	327.8		
200.000	S.D.	53.87		
	N	17		
4	MEAN	272.2		
800.000	S.D.	57.13		
	N	16		
FEMALES				
1	MEAN	135.1		
.000	S.D.	30.46		
	N	20		
2	MEAN	134.9		
100.000	S.D.	34.26		
	N	18		
3	MEAN	148.2		
200.000	S.D.	21.16		
	N	18		
4	MEAN	120.0		
800.000	S.D.	25.79		
	N	17		

TABLE 5A  
MEAN FOOD CONSUMPTION AND STANDARD DEVIATIONS (G/WK)  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND  
DOSE LEVEL  
(MG/KG)

WEEK:	1	2	3	4	5	6	7	8	9	10	11	12	13
MALES													
1	MEAN 181.6	175.0	168.2	169.9	171.6	178.2	169.6	170.4	170.1	167.2	166.1	172.8	148.8
.000	S.D. 10.73	10.73	12.84	15.75	19.70	19.28	23.41	20.57	16.02	15.71	16.74	17.65	24.23
	N 20	20	20	20	10	20	19	20	20	20	20	19	19
2	MEAN 192.7	185.1	182.6	176.0	176.2	174.7	176.4	173.8	169.3	174.4	168.0	167.3	155.7
100.000	S.D. 12.61	18.27	16.39	21.88	18.06	13.45	17.06	16.22	15.43	18.92	14.61	13.94	18.73
	N 20	19	19	19	10	18	19	19	20	20	19	20	18
3	MEAN 190.6	186.7	185.4	175.3	175.4	173.5	173.2	175.2	167.2	171.8	170.8	173.1	156.0
200.000	S.D. 12.81	15.87	13.75	33.41	16.21	12.67	19.77	18.67	23.01	16.85	19.18	18.02	15.77
	N 20	18	19	20	8	17	17	15	18	17	17	16	16
4	MEAN 182.7	189.0	184.0	181.2	183.7	184.8	184.5	176.1	170.1	167.3	175.3	173.5	157.8
800.000	S.D. 20.44	15.49	16.25	25.37	23.55	16.78	17.80	16.11	17.66	21.58	17.43	19.09	27.68
	N 19	20	19	20	10	18	16	14	17	16	13	16	15
FEMALES													
1	MEAN 142.9	142.0	140.1	133.5	133.8	135.5	130.6	132.9	127.8	127.7	125.6	126.7	115.7
.000	S.D. 16.31	20.13	24.21	20.49	17.40	17.63	16.96	17.54	15.77	17.80	22.14	16.52	14.71
	N 18	18	19	17	9	19	17	20	20	19	18	20	20
2	MEAN 148.3	144.3	152.5	144.6	132.3	126.0	141.5	138.3	123.7	132.6	126.3	121.0	118.5
100.000	S.D. 16.95	16.89	26.05	19.91	16.61	10.06	27.77	23.63	15.36	25.32	19.69	11.70	16.98
	N 16	13	19	18	9	17	16	13	16	17	15	15	14
3	MEAN 149.5	147.2	156.3	144.8	142.9	138.3	145.4	142.3	133.7	134.3	132.4	127.8	121.5
200.000	S.D. 14.15	8.99	26.94	14.96	19.79	18.29	20.28	15.16	9.65	18.51	8.77	14.14	12.49
	N 15	17	16	15	7	18	16	13	16	18	17	18	16
4	MEAN 148.7	145.0	152.9	155.9	158.8	140.1	152.6	144.6	128.8	150.9	141.7	138.4	128.9
800.000	S.D. 19.89	18.16	27.03	19.90	28.83	14.04	25.69	22.97	12.81	28.69	24.92	19.88	37.77
	N 18	17	18	15	5	14	13	12	10	17	14	14	13

TABLE 5B  
MEAN TOTAL FOOD CONSUMPTION AND STANDARD DEVIATIONS (G)  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSE LEVEL (MG/KG)	WEEK			
	1 - 5	6 - 9	10 - 13	
MALES				
1	MEAN	879.8	686.4	656.9
.000	S.D.	71.75	72.48	67.13
	N	10	19	18
2	MEAN	900.6	688.6	666.1
100.000	S.D.	68.32	51.57	54.76
	N	9	16	17
3	MEAN	902.9	686.7	663.2
200.000	S.D.	53.14	59.67	57.23
	N	5	15	15
4	MEAN	921.2	716.4	671.5
800.000	S.D.	82.18	63.92	64.21
	N	10	13	12
FEMALES				
1	MEAN	655.5	520.8	485.8
.000	S.D.	50.46	66.60	52.15
	N	6	16	17
2	MEAN	692.7	514.7	488.4
100.000	S.D.	90.31	54.64	50.85
	N	7	10	12
3	MEAN	721.0	557.1	509.7
200.000	S.D.	71.25	34.13	21.48
	N	4	12	15
4	MEAN	733.4	543.1	535.8 <sup>s</sup>
800.000	S.D.	44.13	53.78	48.11
	N	3	8	9

TABLE 6  
MEAN CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSAGE LEVEL		RBC		Hb		G/DL		HCT		%		PLATELET		TH/UL
		WEEK	MI/UL	WEEK	MI/UL	WEEK	G/DL	WEEK	MI/UL	WEEK	MI/UL	WEEK	TH/UL	
		-1	13	-1	13	-1	13	-1	13	-1	13	-1	13	
MALE														
1	0 MG/KG	MEAN	7.73	8.49	15.5	15.6	44.8	43.9	1110	1084				
		S.D.	.641	.407	.99	.66	3.49	1.80	178.1	158.4				
		N	9	10	9	10	9	10	9	10				
2	100 MG/KG	MEAN	7.65	8.21	15.6	15.3	45.0	43.3	1129	1088				
		S.D.	.923	.692	1.17	1.09	4.90	3.08	222.6	176.8				
		N	10	10	10	10	10	10	10	10				
3	200 MG/KG	MEAN	7.98	8.52	15.8	15.6	46.9	44.3	1153	1141				
		S.D.	.727	.339	1.33	.74	3.99	1.59	133.7	72.1				
		N	10	10	10	10	10	10	10	10				
4	800 MG/KG	MEAN	7.74	8.44	15.9	15.7	44.8	44.0	1155	1092				
		S.D.	.875	.235	.93	.62	4.76	1.39	259.6	119.3				
		N	9	10	9	10	9	10	9	10				
5	BASELINE	MEAN	6.79	14.5	45.0	1166								
		S.D.	.375	.65	3.64	45.9								
		N	5	5	5	5								
FEMALE														
1	0 MG/KG	MEAN	6.55	7.47	15.4	14.4	37.5	40.5	1214	1109				
		S.D.	.932	.724	1.38	1.11	4.92	3.78	208.4	141.2				
		N	10	10	10	10	10	10	10	10				
2	100 MG/KG	MEAN	6.02	7.85	14.8	15.2	34.8	42.8	965	1088				
		S.D.	.990	.401	1.98	.60	5.24	1.94	303.7	121.2				
		N	10	10	10	10	10	10	10	10				
3	200 MG/KG	MEAN	6.38	7.88	15.3	15.3	36.6	42.5	1131	1096				
		S.D.	1.056	.499	2.01	.70	5.41	1.74	227.1	117.2				
		N	10	10	10	10	10	10	10	10				
4	800 MG/KG	MEAN	5.93	7.80	15.2	15.1	34.3	42.3	1138	1070				
		S.D.	.949	.378	1.96	.46	4.54	1.58	266.2	148.4				
		N	10	10	10	10	10	10	10	10				
5	BASELINE	MEAN	6.07	14.7	39.1	1433								
		S.D.	.305	.31	2.47	97.2								
		N	5	5	5	5								



TABLE 6 - CONTINUED  
MEAN CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSE LEVEL		WBC			TH/UL			BLAST			META			TH/UL (%)			BAND		
		MEAN	S.D.	N	WEEK	TH/UL	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK
					-1	13	5	-1	13	5	-1	13	5	-1	13	5	-1	13	5
MALE																			
1	0 MG/KG	MEAN			14.1	13.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			2.64	1.33	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			9	10	9	10	9	10	9	10	9	10	9	10	9	10	10
2	100 MG/KG	MEAN			17.1	14.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			4.02	2.90	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
3	200 MG/KG	MEAN			14.3	13.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			2.70	2.56	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4	800 MG/KG	MEAN			16.9	13.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			4.56	2.47	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			9	10	9	10	9	10	9	10	9	10	9	10	9	10	10
5	BASELINE	MEAN	9.5		.0		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.	2.14		.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N	5		5		5	5	5	5	5	5	5	5	5	5	5	5	5
FEMALE																			
1	0 MG/KG	MEAN			15.3	10.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			2.47	2.33	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
2	100 MG/KG	MEAN			17.5	13.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			4.36	3.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
3	200 MG/KG	MEAN			16.1	10.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			3.47	2.18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4	800 MG/KG	MEAN			17.7	12.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.			3.08	3.50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
5	BASELINE	MEAN	11.5		.0		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
		S.D.	2.31		.00		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		N	5		5		5	5	5	5	5	5	5	5	5	5	5	5	5

TABLE 6 - CONTINUED  
MEAN CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSAGE LEVEL	SEG TH/UL (%)			LYMPH TH/UL (%)			MONO TH/UL (%)			EOSIN TH/UL (%)		
	WEEK			WEEK			WEEK			WEEK		
	-1	5	13	-1	5	13	-1	5	13	-1	5	13
MALE												
1	MEAN	2.5 <sup>A</sup>	3.1 <sup>A</sup>		11.3	9.8		.3	.2		.0	.1
0 MG/KG	S.D.	2.05	1.40		2.75	1.02		.26	.21		.07	.22
	N	9	10		9	10		9	10		9	10
2	MEAN	2.4	2.1		14.5	11.9		.1	.1		.2	.2
100 MG/KG	S.D.	1.73	.95		2.87	2.62		.13	.13		.15	.13
	N	10	10		10	10		10	10		10	10
3	MEAN	1.7	1.7 <sup>A</sup>		12.3	11.5		.1	.1		.1	.1
200 MG/KG	S.D.	.55	.72		3.00	2.12		.13	.11		.13	.10
	N	10	10		10	10		10	10		10	10
4	MEAN	2.9	2.1		13.8	10.8		.2	.1		.1	.2
800 MG/KG	S.D.	1.38	.64		3.69	2.34		.25	.15		.19	.18
	N	9	10		9	10		9	10		9	10
5	MEAN	1.3		8.1			.1			.0		
BASELINE	S.D.	.67		2.00			.14			.00		
	N	5		5			5			5		
FEMALE												
1	MEAN	2.1 <sup>A</sup>	1.4 <sup>A</sup>		12.9	8.6		.1	.1		.2	.1
0 MG/KG	S.D.	.78	.64		2.23	2.36		.22	.08		.19	.11
	N	10	10		10	10		10	10		10	10
2	MEAN	4.3	2.1		12.9	10.8		.2	.1		.1	.1
100 MG/KG	S.D.	3.45	1.27		3.03	3.33		.26	.08		.18	.12
	N	10	10		10	10		10	10		10	10
3	MEAN	2.8	1.3		12.9	9.2		.1	.0		.2	.2
200 MG/KG	S.D.	1.75	.62		3.11	1.91		.21	.05		.16	.14
	N	10	10		10	10		10	10		10	10
4	MEAN	2.8	2.1		14.6	10.0		.1	.0		.2	.1
800 MG/KG	S.D.	1.77	1.32		3.02	3.27		.15	.07		.14	.11
	N	10	10		10	10		10	10		10	10
5	MEAN	1.2		10.2			.1			.0		
BASELINE	S.D.	.54		2.07			.09			.05		
	N	5		5			5			5		

TABLE 6 - CONTINUED  
 MEAN CLINICAL HEMATOLOGY VALUES  
 SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSAGE LEVEL	BASO TH/UL(%)			
	WEEK			
	-1	5	13	
MALE				
1 0 MG/KG	MEAN S.D. N	.0 .00 9	.0 .00 10	
2 100 MG/KG	MEAN S.D. N	.0 .00 10	.0 .00 10	
3 200 MG/KG	MEAN S.D. N	.0 .00 10	.0 .00 10	
4 800 MG/KG	MEAN S.D. N	.0 .00 9	.0 .00 10	
5 BASELINE	MEAN S.D. N	.0 .00 5		
FEMALE				
1 0 MG/KG	MEAN S.D. N	.0 .00 10	.0 .00 10	
2 100 MG/KG	MEAN S.D. N	.0 .00 10	.0 .00 10	
3 200 MG/KG	MEAN S.D. N	.0 .00 10	.0 .00 10	
4 800 MG/KG	MEAN S.D. N	.0 .00 10	.0 .00 10	
5 BASELINE	MEAN S.D. N	.0 .00 5		



TABLE 7  
MEAN CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSAGE LEVEL	SODIUM MMOL/L			POTAS MMOL/L			CHLORIDE MMOL/L			T PROT G/DL		
	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK
	-1	5	13	-1	5	13	-1	5	13	-1	5	13
MALE												
1												
0 MG/KG	MEAN	146.2	149.2	6.18 <sup>B</sup>	6.17	107.1	105.9	6.3	6.4			
	S.D.	1.51	2.56	.425	.247	.89	2.21	.42	.31			
	N	10	10	10	10	10	10	10	10			
2												
100 MG/KG	MEAN	145.5	148.5	6.26	5.91	105.9	104.4	6.2	6.4			
	S.D.	1.23	2.26	.625	.281	2.65	2.76	.38	.35			
	N	10	10	10	10	10	10	10	10			
3												
200 MG/KG	MEAN	145.0	149.2	6.23	6.03	106.7	104.5	6.3	6.5			
	S.D.	2.21	1.29	.278	.216	1.52	1.84	.34	.39			
	N	10	10	10	10	10	10	10	10			
4												
800 MG/KG	MEAN	145.7	148.9	6.38	6.35	107.0	104.5	6.3	6.7			
	S.D.	.93	1.85	.403	.255	1.38	1.55	.31	.40			
	N	10	10	10	10	10	10	10	10			
5												
BASELINE	MEAN	144.7		6.37	105.0			5.4				
	S.D.	1.47		.628	2.43			.21				
	N	5		5	5			5				
FEMALE												
1												
0 MG/KG	MEAN	144.1	146.9	6.13	5.79 <sup>F</sup>	107.9	105.8	6.7	6.8			
	S.D.	1.67	2.54	.469	.262	2.01	1.93	.41	.35			
	N	10	10	10	10	10	10	10	10			
2												
100 MG/KG	MEAN	144.6	147.3	5.91	5.90	107.8	105.1	6.7	7.1			
	S.D.	2.69	1.53	.477	.300	1.89	1.98	.36	.32			
	N	10	10	10	10	10	10	10	10			
3												
200 MG/KG	MEAN	145.0	147.5	6.35	5.97	108.3	106.2	6.8	7.0			
	S.D.	1.69	1.69	.506	.446	1.21	1.85	.31	.33			
	N	10	10	10	10	10	10	10	10			
4												
800 MG/KG	MEAN	144.3	147.5	6.20	5.94	107.6	106.3	6.8	6.7			
	S.D.	2.56	2.01	.685	.183	2.68	1.31	.32	.24			
	N	10	10	10	10	10	10	10	10			
5												
BASELINE	MEAN	144.0		6.37	105.1			5.4				
	S.D.	1.02		.963	1.79			.25				
	N	5		5	5			5				

TABLE 7 - CONTINUED  
MEAN CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSAGE LEVEL	ALBUMIN G/DL			GLOBULIN G/DL			A/G			RATIO			CALCIUM MG/DL		
	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.	N
1 0 MG/KG	4.0	.22	10	3.8	.12	10	2.3	.26	10	2.5	.27	10	1.74	.168	10
2 100 MG/KG	3.8	.41	10	3.7	.43	10	2.4	.19	10	2.7	.37	10	1.60	.227	10
3 200 MG/KG	4.0	.18	10	3.9	.21	10	2.3	.25	10	2.6	.27	10	1.75	.186	10
4 800 MG/KG	4.0	.21	10	4.0	.14	10	2.3	.16	10	2.8	.31	10	1.74	.129	10
5 BASELINE	3.7	.19	5	1.7	.21	5	2.16	.348	5	10.8	.56	5	10.5	.36	10
1 0 MG/KG	4.0	.51	10	4.1	.77	10	2.8	.30	10	2.7	.56	10	1.46	.291	10
2 100 MG/KG	4.2	.26	10	4.4	.28	10	2.5	.17	10	2.6	.18	10	1.67	.123	10
3 200 MG/KG	4.1	.25	10	4.3	.22	10	2.6	.23	10	2.6	.25	10	1.59	.197	10
4 800 MG/KG	4.2	.51	10	4.2	.18	10	2.6	.46	10	2.5	.15	10	1.65	.344	10
5 BASELINE	3.7	.20	5	1.7	.08	5	2.15	.116	5	10.9	.40	5	10.8	.53	10

TABLE 7 - CONTINUED  
MEAN CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSAGE LEVEL		BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	
		WEEK	WEEK	WEEK	WEEK	WEEK
		-1	-1	-1	-1	-1
		13	13	13	13	13
		5	5	5	5	5
		10	10	10	10	10
		15	15	15	15	15
		20	20	20	20	20
		25	25	25	25	25
		30	30	30	30	30
		35	35	35	35	35
		40	40	40	40	40
		45	45	45	45	45
		50	50	50	50	50
		55	55	55	55	55
		60	60	60	60	60
		65	65	65	65	65
		70	70	70	70	70
		75	75	75	75	75
		80	80	80	80	80
		85	85	85	85	85
		90	90	90	90	90
		95	95	95	95	95
		100	100	100	100	100
		105	105	105	105	105
		110	110	110	110	110
		115	115	115	115	115
		120	120	120	120	120
		125	125	125	125	125
		130	130	130	130	130
		135	135	135	135	135
		140	140	140	140	140
		145	145	145	145	145
		150	150	150	150	150
		155	155	155	155	155
		160	160	160	160	160
		165	165	165	165	165
		170	170	170	170	170
		175	175	175	175	175
		180	180	180	180	180
		185	185	185	185	185
		190	190	190	190	190
		195	195	195	195	195
		200	200	200	200	200
		205	205	205	205	205
		210	210	210	210	210
		215	215	215	215	215
		220	220	220	220	220
		225	225	225	225	225
		230	230	230	230	230
		235	235	235	235	235
		240	240	240	240	240
		245	245	245	245	245
		250	250	250	250	250
		255	255	255	255	255
		260	260	260	260	260
		265	265	265	265	265
		270	270	270	270	270
		275	275	275	275	275
		280	280	280	280	280
		285	285	285	285	285
		290	290	290	290	290
		295	295	295	295	295
		300	300	300	300	300
		305	305	305	305	305
		310	310	310	310	310
		315	315	315	315	315
		320	320	320	320	320
		325	325	325	325	325
		330	330	330	330	330
		335	335	335	335	335
		340	340	340	340	340
		345	345	345	345	345
		350	350	350	350	350
		355	355	355	355	355
		360	360	360	360	360
		365	365	365	365	365
		370	370	370	370	370
		375	375	375	375	375
		380	380	380	380	380
		385	385	385	385	385
		390	390	390	390	390
		395	395	395	395	395
		400	400	400	400	400
		405	405	405	405	405
		410	410	410	410	410
		415	415	415	415	415
		420	420	420	420	420
		425	425	425	425	425
		430	430	430	430	430
		435	435	435	435	435
		440	440	440	440	440
		445	445	445	445	445
		450	450	450	450	450
		455	455	455	455	455
		460	460	460	460	460
		465	465	465	465	465
		470	470	470	470	470
		475	475	475	475	475
		480	480	480	480	480
		485	485	485	485	485
		490	490	490	490	490
		495	495	495	495	495
		500	500	500	500	500
		505	505	505	505	505
		510	510	510	510	510
		515	515	515	515	515
		520	520	520	520	520
		525	525	525	525	525
		530	530	530	530	530
		535	535	535	535	535
		540	540	540	540	540
		545	545	545	545	545
		550	550	550	550	550
		555	555	555	555	555
		560	560	560	560	560
		565	565	565	565	565
		570	570	570	570	570
		575	575	575	575	575
		580	580	580	580	580
		585	585	585	585	585
		590	590	590	590	590
		595	595	595	595	595
		600	600	600	600	600
		605	605	605	605	605
		610	610	610	610	610
		615	615	615	615	615
		620	620	620	620	620
		625	625	625	625	625
		630	630	630	630	630
		635	635	635	635	635
		640	640	640	640	640
		645	645	645	645	645
		650	650	650	650	650
		655	655	655	655	655
		660	660	660	660	660
		665	665	665	665	665
		670	670	670	670	670
		675	675	675	675	675
		680	680	680	680	680
		685	685	685	685	685
		690	690	690	690	690
		695	695	695	695	695
		700	700	700	700	700
		705	705	705	705	705
		710	710	710	710	710
		715	715	715	715	715
		720	720	720	720	720
		725	725	725	725	725
		730	730	730	730	730
		735	735	735	735	735
		740	740	740	740	740
		745	745	745	745	745
		750	750	750	750	750
		755	755	755	755	755
		760	760	760	760	760
		765	765	765	765	765
		770	770	770	770	770
		775	775	775	775	775
		780	780	780	780	780
		785	785	785	785	785
		790	790	790	790	790
		795	795	795	795	795
		800	800	800	800	800
		805	805	805	805	805
		810	810	810	810	810
		815	815	815	815	815
		820	820	820	820	820
		825	825	825	825	825
		830	830	830	830	830
		835	835	835	835	835
		840	840	840	840	840
		845	845	845	845	845
		850	850	850	850	850
		855	855	855	855	855
		860	860	860	860	860
		865	865	865	865	865
		870	870	870	870	870
		875	875	875	875	875
		880	880	880	880	880
		885	885	885	885	885
		890	890	890	890	890
		895	895	895	895	895
		900	900	900	900	900
		905	905	905	905	905
		910	910	910	910	910
		915	915	915	915	915
		920	920	920	920	920
		925	925	925	925	925
		930	930	930	930	930
		935	935	935	935	935
		940	940	940	940	940
		945	945	945	945	945
		950	950	950	950	950
		955	955	955	955	955
		960	960	960	960	960
		965	965	965	965	965
		970	970	970	970	970
		975	975	975	975	975
		980	980	980	980	980
		985	985	985	985	985
		990	990	990	990	990
		995	995	995	995	995
		1000	1000	1000	1000	1000
		1005	1005	1005	1005	1005
		1010	1010	1010	1010	1010
		1015	1015	1015	1015	1015
		1020	1020	1020	1020	1020
		1025	1025	1025	1025	1025
		1030	1030	1030	1030	1030
		1035	1035	1035	1035	1035
		1040	1040	1040	1040	1040
		1045	1045	1045	1045	1045
		1050	1050	1050	1050	1050
		1055	1055	1055	1055	1055
		1060	1060	1060	1060	1060
		1065	1065	1065	1065	1065
		1070	1070	1070	1070	1070
		1075	1075	1075	1075	1075
		1080	1080	1080	1080	1080
		1085	1085	1085	1085	1085
		1090	1090	1090	1090	1090
		1095	1095	1095	1095	1095
		1100	1100	1100	1100	1100
		1105	1105	1105	1105	1105
	</					

TABLE 7 - CONTINUED  
 MEAN CLINICAL CHEMISTRY VALUES  
 SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DOSAGE LEVEL	IN PHOS MG/DL			T BILI MG/DL		
	WEEK	13	-1	WEEK	5	13
	-1	5	13	-1	5	13
	MALE					
1	MEAN	9.3	7.9	.0	.1	.1
0 MG/KG	S.D.	.70	.46	.04	.07	.07
	N	10	10	10	10	10
2	MEAN	9.2	7.6	.0	.0	.0
100 MG/KG	S.D.	.68	.86	.07	.05	.05
	N	10	10	10	10	10
3	MEAN	8.9	7.4	.0	.1	.1
200 MG/KG	S.D.	.65	.53	.05	.08	.08
	N	10	10	10	10	10
4	MEAN	9.5	8.0	.0	.0	.0
800 MG/KG	S.D.	.62	.51	.05	.03	.03
	N	10	10	10	10	10
5	MEAN	10.5		.1		
BASELINE	S.D.	.41		.12		
	N	4		4		
	FEMALE					
1	MEAN	8.2	6.8	.1	.1	.1
0 MG/KG	S.D.	.72	.98	.07	.07	.07
	N	10	10	10	10	10
2	MEAN	8.3	6.5	.1	.0	.0
100 MG/KG	S.D.	1.02	1.02	.07	.05	.05
	N	10	10	10	10	10
3	MEAN	8.9	7.1	.1	.1	.1
200 MG/KG	S.D.	.84	.59	.07	.07	.07
	N	10	10	10	10	10
4	MEAN	9.7 <sup>a</sup>	7.1	.1	.0	.0
800 MG/KG	S.D.	1.20	.53	.06	.04	.04
	N	10	10	10	10	10
5	MEAN	10.5		.0		
BASELINE	S.D.	.58		.00		
	N	5		5		

TABLE 2 - CONTINUED  
MEAN CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

GROUP AND DISSAGE LEVEL	AST			ALT			ALK P			LDH		
	WEEK	U/L		WEEK	U/L		WEEK	U/L		WEEK	U/L	
	-1	13	*	-1	13	*	-1	5	*	-1	5	*
MALE												
1	MEAN	106	57	31	26	161	74	512	166			
0 MG/KG	S.D.	51.6	7.0	8.0	4.6	29.0	14.0	198.9	110.3			
	N	10	10	10	10	10	10	10	10			
2	MEAN	92	53	31	24	136	71	412	148			
100 MG/KG	S.D.	33.6	9.9	5.8	1.2	33.7	13.8	201.5	149.1			
	N	10	10	10	10	10	10	10	10			
3	MEAN	92	54	36	24	151	76	430	127			
200 MG/KG	S.D.	19.9	3.6	14.0	4.2	23.2	7.1	232.9	57.5			
	N	10	10	10	10	10	10	10	10			
4	MEAN	105	56	35	27	154	74	535	131			
800 MG/KG	S.D.	55.8	6.1	7.2	4.7	20.4	18.3	237.2	53.4			
	N	10	10	10	10	10	10	10	10			
5	MEAN	135	32	292	643	535	131	643	131			
BASELINE	S.D.	56.5	10.3	105.4	169.5	20.4	18.3	237.2	53.4			
	N	5	5	5	5	10	10	10	10			
FEMALE												
1	MEAN	83	52	28	24	74	39	503	159			
0 MG/KG	S.D.	17.4	11.2	2.1	7.0	21.0	9.1	175.9	103.8			
	N	10	10	10	10	10	10	10	10			
2	MEAN	95	55	26	26	105	53	643	112			
100 MG/KG	S.D.	14.3	8.3	5.9	10.3	29.5	16.4	175.9	36.6			
	N	10	10	10	10	10	10	10	10			
3	MEAN	99	62	29	24	110	52	690	193			
200 MG/KG	S.D.	10.4	14.1	5.5	6.1	34.6	17.1	252.2	119.3			
	N	10	10	10	10	10	10	10	10			
4	MEAN	90	54	35	28	104	45	476	125			
800 MG/KG	S.D.	22.4	4.7	6.1	4.7	41.8	18.1	182.3	102.6			
	N	10	10	10	10	10	10	10	10			
5	MEAN	163	35	178	592	104	45	476	125			
BASELINE	S.D.	128.5	14.2	56.9	113.8	41.8	18.1	182.3	102.6			
	N	5	5	5	5	10	10	10	10			

TABLE INCLUDES:

SEX=ALL;GROUP=ALL;WEEKS=ALL  
DEATH=T;SUBSET=ALL

SEX:		--MALE--				--FEMALE--			
GROUP:		1	2	3	4	1	2	3	4
NUMBER:		19	18	17	16	20	18	17	15
>>> TERMINAL BODY WEIGHT (g) <<<									
# IN GRP.:	19	18	17	16	20	18	17	15	
MEAN:	519.0	529.9	532.5	478.0	293.7	289.3	307.7	276.1	
STAND DEV:	64.6	63.8	53.0	54.7	30.5	30.8	23.6	15.4	
>>> AD - ADRENAL <<<									
# IN GRP.:	14 <sup>F</sup>	8	7	6	15	8	7	5	
MEAN:	.065	.065	.060	.065	.074	.072	.071	.072	
STAND DEV:	.007	.015	.015	.017	.010	.011	.014	.010	
>>> OV - OVARY <<<									
# IN GRP.:	0	0	0	0	15	8	7	5	
MEAN:					.142	.135	.126	.128	
STAND DEV:					.030	.023	.012	.028	
>>> BR - BRAIN W/STEM <<<									
# IN GRP.:	14	8	7	6	15	8	7	5	
MEAN:	2.22	2.21	2.14	2.24	1.99	2.09	2.07	2.03	
STAND DEV:	.10	.14	.13	.16	.14	.13	.11	.04	
>>> HT - HEART <<<									
# IN GRP.:	14	8	7	6	15	8	7	5	
MEAN:	1.55	1.56	1.45	1.38	.94	.98	.99	.87	
STAND DEV:	.29	.24	.30	.15	.11	.15	.06	.08	
>>> SP - SPLEEN <<<									
# IN GRP.:	14	8	7	6	15	8	7	5	
MEAN:	.92	.84	.86	.78	.66	.62	.68	.58	
STAND DEV:	.19	.18	.16	.07	.14	.10	.12	.06	

TABLE 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ABSOLUTE ORGAN WEIGHT MEANS (q)

TABLE INCLUDES:

SEX=ALL; GROUP=ALL; WEEKS=ALL  
DEATH=T; SUBSET=ALL

SEX:		MALE				FEMALE			
GROUP:		1	2	3	4	1	2	3	4
NUMBER:		19	18	17	16	20	18	17	15
>>> KO - KIDNEY <<<									
# IN GRP.:	14 F		8	7	6	15	8	7	5
MEAN:	3.43		4.59	3.56	3.69	2.42	2.13	2.16	2.17
STAND DEV:	.50		2.19	.25	.29	.89	.25	.19	.27
>>> LI - LIVER <<<									
# IN GRP.:	14		8	7	6	15	8	7	5
MEAN:	13.65		14.62	15.17	13.61	8.16	7.84	8.37	8.22
STAND DEV:	2.89		2.44	2.74	1.24	1.87	1.36	.69	.69
>>> TP - TESTIS/EPIDID <<<									
# IN GRP.:	14		8	7	6	0	0	0	0
MEAN:	5.74		5.54	5.31	5.26				
STAND DEV:	.45		.64	.38	.43				

ORGAN TO TERMINAL BODY WEIGHT RATIO MEANS (%)

STUDY NUMBER: 2399110

TABLE INCLUDES:

SEX=ALL; GROUP=ALL; WEEKS=ALL  
DEATH=T; SUBSET=ALL

SEX:	MALE				FEMALE			
	1	2	3	4	1	2	3	4
GROUP:	19	18	17	16	20	18	17	15
NUMBER:								
# IN GRP.:	14 F	8	7	>>> AD - ADRENAL <<<	15	8	7	5
MEAN:	.0128	.0129	.0112	.0138	.0261	.0239	.0229	.0258
STAND DEV:	.0015	.0049	.0027	.0038	.0062	.0041	.0045	.0041
# IN GRP.:	0	0	0	>>> OV - OVARY <<<	15	8	7	5
MEAN:					.0502	.0451	.0410	.0454
STAND DEV:					.0148	.0081	.0062	.0072
# IN GRP.:	14	8	7	>>> BR - BRAIN W/STEM <<<	15	8	7	5
MEAN:	.438	.426	.405	.473	.698	.699	.671	.726
STAND DEV:	.057	.073	.057	.050	.097	.082	.036	.053
# IN GRP.:	14 F	8	7	>>> HT - HEART <<<	15	8	7	5
MEAN:	.300	.301	.270	.290	.329	.325	.321	.312
STAND DEV:	.030	.070	.042	.022	.061	.044	.024	.032
# IN GRP.:	14	8	7	>>> SP - SPLEEN <<<	15	8	7	5
MEAN:	.180	.166	.162	.164	.231	.204	.220	.206
STAND DEV:	.036	.064	.034	.011	.065	.029	.030	.021
# IN GRP.:	14 F	8	7	>>> KD - KIDNEY <<<	15 F	8	7	5
MEAN:	.669	.930	.669	.778	.863	.708	.698	.772
STAND DEV:	.066	.601	.067	.070	.410	.072	.060	.087



ORGAN TO TERMINAL BODY WEIGHT RATIO MEANS (%)

STUDY NUMBER: 2399110

TABLE INCLUDES:

SEX=ALL; GROUP=ALL; WEEKS=ALL  
DEATH=T; SUBSET=ALL

SEX:	MALE				FEMALE			
	1	2	3	4	1	2	3	4
GROUP:	19	18	17	16	20	18	17	15
NUMBER:								
>>> LI - LIVER <<<								
# IN GRP.:	14 A	8	7	6	15	8	7	5
MEAN:	2.640	2.823	2.831	2.858	2.890	2.587	2.726	2.940
STAND DEV:	.351	.705	.411	.150	.971	.311	.407	.320
>>> TP - TESTIS/EPIDID <<<								
# IN GRP.:	14	8	7	6	0	0	0	0
MEAN:	1.132	1.065	.997	1.107				
STAND DEV:	.157	.185	.082	.076				

STUDY NUMBER: 2399110

GROSS PATHOLOGY INCIDENCE SUMMARY

--- NUMBER - OF - AN I M A L S - A F F E C T E D ---

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;WEEKS=ALL  
DEATH=T;SUBSET=ALL

SEX: ---MALE--- ---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 18 17 15

ORGAN AND KEYWORD(S) OR PHRASE

\*\* TOP OF LIST \*\*

BRAIN W/STEM (BR) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

PITUITARY (PI) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

CORD, CERVICAL (CS) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

CORD, THORACIC (TC) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

CORD, LUMBAR (LC) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

NERVE, SCIATIC (SN) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

LUNG (LU) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

KIDNEY (KD) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 17 16 16 16 17 18 17 15

PALE

\*\* CONTINUED ON NEXT PAGE \*\*

0 1 0 0 2 0 0 0

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---									
TABLE INCLUDES:									
SEX=ALL;GROUP=ALL;WEEKS=ALL									
DEATH=T;SUBSET=ALL									
ORGAN AND KEYWORD(S) OR PHRASE	SEX:		---MALE---		---FEMALE---				
	GROUP:	-1-	-2-	-3-	-4-	-1-	-2-	-3-	-4-
	NUMBER:	19	18	17	16	20	18	17	15
** FROM PREVIOUS PAGE **									
KIDNEY (KD) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15
	NOT REMARKABLE:	17	16	16	16	17	18	17	15
GRANULAR/PITTED/ROUGH		0	2	0	0	2	0	0	0
ENLARGED		0	2	0	0	2	0	0	0
PELVIS, DILATED		1	0	0	0	1	0	0	0
H-PELVIS, DILATED		1	0	1	0	0	0	0	0
ADRENAL, MEDULLA (AM) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15
	NOT REMARKABLE:	19	18	17	16	20	18	17	15
ADRENAL, CORTEX (AC) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15
	NOT REMARKABLE:	19	18	17	16	20	18	17	15
LIVER (LI) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15
	NOT REMARKABLE:	18	18	17	16	20	18	17	15
H-DARK AREA		1	0	0	0	0	0	0	0
SPLEEN (SP) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15
	NOT REMARKABLE:	19	18	17	16	19	18	16	15
CYST		0	0	0	0	1	0	1	0
PANCREAS (PA) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15
	NOT REMARKABLE:	19	18	16	16	20	17	17	15
GELATINOUS		0	0	1	0	0	1	0	0

TABLE 10A

GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2799110

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---

TABLE INCLUDES:

SEX=ALL; GROUP=ALL; WEEKS=ALL  
DEATH=T; SUBSET=ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

ORGAN AND KEYWORD(S) OR PHRASE

NUMBER: 19 18 17 16 20 18 17 15

HEART (HT)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

THYMUS (TH)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

TRACHEA (TR)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

THYROID (TY)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

PARATHYROID (PT)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

ESOPHAGUS (ES)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

MAND SALIVARY GL (SG)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

AORTA, THORACIC (AO)

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

STUDY NUMBER: 2399110

GROSS PATHOLOGY INCIDENCE SUMMARY

TABLE INCLUDES:		--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---													
SEX=ALL;GROUP=ALL;WEEKS=ALL DEATH=T;SUBSET=ALL		SEX:		-----MALE-----						-----FEMALE-----					
ORGAN AND KEYWORD(S) OR PHRASE		GROUP:		-1-	-2-	-3-	-4-	-1-	-2-	-3-	-4-				
		NUMBER:		19	18	17	16	20	18	17	15				
STOMACH, GL (ST)		NUMBER EXAMINED:		19	18	17	16	20	18	17	15				
		NOT REMARKABLE:		19	18	17	16	20	17	17	15				
RAISED AREA				0	0	0	0	0	1	0	0				
STOMACH, NONGL (SU)		NUMBER EXAMINED:		19	18	17	16	20	18	17	15				
		NOT REMARKABLE:		19	18	17	15	20	18	17	15				
WALL, THICKENED				0	0	0	1	0	0	0	0				
DUODENUM (DU)		NUMBER EXAMINED:		19	18	17	16	20	18	17	15				
		NOT REMARKABLE:		19	18	17	16	20	18	17	15				
JEJUNUM (JE)		NUMBER EXAMINED:		19	18	17	16	20	18	17	15				
		NOT REMARKABLE:		19	18	17	16	19	18	17	15				
DARK AREA LUMEN, MATERIAL				0	0	0	0	1	0	0	0				
				0	0	0	0	1	0	0	0				
ILEUM (IL)		NUMBER EXAMINED:		19	18	17	16	20	18	17	15				
		NOT REMARKABLE:		19	18	17	16	20	18	17	15				
CECUM (CE)		NUMBER EXAMINED:		19	18	17	16	20	18	17	15				
		NOT REMARKABLE:		19	18	17	15	20	18	17	15				
MUCOSA, DARK				0	0	0	1	0	0	0	0				

STUDY NUMBER: 2399110

TABLE 10A  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
GROSS PATHOLOGY INCIDENCE SUMMARY

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

--- NUMBER - OF - ANIMALS - AFFECTED ---

TABLE INCLUDES: SEX=ALL;GROUP=ALL;WEEKS=ALL DEATH=Y;SUBSET=ALL	SEX:	--- MALE ---												--- FEMALE ---											
		GROUP: -1- -2- -3- -4-			-1- -2- -3- -4-			-1- -2- -3- -4-			-1- -2- -3- -4-			-1- -2- -3- -4-			-1- -2- -3- -4-			-1- -2- -3- -4-			-1- -2- -3- -4-		
ORGAN AND KEYWORD(S) OR PHRASE	NUMBER:	19	18	17	16	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
COLON (CO) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
	NOT REMARKABLE:	19	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
INTUSSUSCEPTED		0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RECTUM (RE) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
	NOT REMARKABLE:	19	18	17	16	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
LN, MESENTERIC (MS) .....	NUMBER EXAMINED:	19	18	17	16	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
	NOT REMARKABLE:	19	18	17	16	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
TESTIS (TE) .....	NUMBER EXAMINED:	19	18	17	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NOT REMARKABLE:	19	18	15	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOFT UNEQUALLY SIZED		0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EPIDIDYMIS (EP) .....	NUMBER EXAMINED:	19	18	17	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NOT REMARKABLE:	19	18	17	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OVARY (OV) .....	NUMBER EXAMINED:	0	0	0	0	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
	NOT REMARKABLE:	0	0	0	0	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
CYST		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
UTERUS (UT) .....	NUMBER EXAMINED:	0	0	0	0	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
	NOT REMARKABLE:	0	0	0	0	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15	20	18	17	15
LUMEN, FLUID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

\*\* CONTINUED ON NEXT PAGE \*\*

TABLE 10A  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 18 17 15

NUMBER EXAMINED: 0 0 0 0 20 18 17 15  
NOT REMARKABLE: 0 0 0 0 20 17 17 14

0 0 0 0 0 1 0 0

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 18 18 17 16 20 18 17 15

1 0 0 0 0 0 0 0

NUMBER EXAMINED: 19 18 17 16 0 0 0 0  
NOT REMARKABLE: 19 18 17 16 0 0 0 0

NUMBER EXAMINED: 19 18 17 16 0 0 0 0  
NOT REMARKABLE: 19 18 17 16 0 0 0 0

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;WEEKS=ALL  
DEATH=T;SUBSET=ALL

ORGAN AND KEYWORD(S) OR PHRASE

\*\* FROM PREVIOUS PAGE \*\*

UTERUS (UT)

DISTENDED

URINARY BLADDER (UB)

H-LUMEN, CALCULUS

PROSTATE (PR)

SEMINAL VESICLE (SV)

SKIN (SK)

MAMMARY GLAND (MG)

MUSCLE, SKELETAL (SH)

TABLE 10A  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

GROSS PATHOLOGY INCIDENCE SUMMARY

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 18 17 15

ORGAN AND KEYWORD(S) OR PHRASE

EYE ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 17 17 16 16 20 18 16 14

GLOBE RUPTURED ANTE MORTEM  
EXTERNAL, OPAQUE  
0 0 0 0 0 0 0 1 1  
2 1 1 0 0 0 0 0 0

LACRIMAL GL, EXO (EO) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

BONE, STERNUM (SB) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

MARROW, STERNUM (SE) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

BONE, FEMUR (FE) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

SKIN, OTHER (SS) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 19 18 16 15

ALOPECIA  
0 0 0 0 1 0 1 0

ORGANS, MULTIPLE (OG) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15



GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

TABLE INCLUDES:

SEX=ALL;GROUP=ALL;WEEKS=ALL  
DEATH=T;SUBSET=ALL

--- NUMBER OF ANIMALS AFFECTED ---

SEX: -----MALE-----FEMALE-----

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 18 17 15

ORGAN AND KEYWORD(S) OR PHRASE

LN, OTHER (LN) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

NASAL TURBINATE (NT) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 19 18 17 16 20 18 17 15

^COLLECTED/TAKEN (XW) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 14 8 7 6 15 8 7 5

ELECTRON MICROSCOPY SAMPLE  
5 10 10 10 5 10 10 10

\*\* END OF LIST \*\*

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---									
TABLE INCLUDES:									
SEX=ALL;GROUP=ALL;WEEKS=ALL									
DEATH=UNSCHED;SUBSET=ALL									
SEX: -----MALE-----FEMALE-----									
GROUP: -1- -2- -3- -4- -1- -2- -3- -4-									
NUMBER: 1 2 3 4 0 2 3 5									
ORGAN AND KEYWORD(S) OR PHRASE									
** TOP OF LIST **									
BRAIN W/STEM (BR)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	4
SOFT		0	0	0	0	0	0	0	1
PITUITARY (PI)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	4
DARK		0	0	0	0	0	0	0	1
CORD, CERVICAL (CS)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	5
CORD, THORACIC (TC)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	5
CORD, LUMBAR (LC)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	5
NERVE, SCIATIC (SN)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	5
LUNG (LU)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	0	0	0	0	1	1	0
FAILURE TO COLLAPSE		0	2	2	4	0	1	2	3
MOTTLED		0	2	3	4	0	1	2	2
FLUID FILLED		0	0	0	1	0	0	0	0

\*\* CONTINUED ON NEXT PAGE \*\*

TABLE 10B

GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

--- NUMBER - OF - ANIMALS - AFFECTED ---												
TABLE INCLUDES:												
SEX=ALL;GROUP=ALL;WEEKS=ALL												
DEATH=UNSCHED;SUBSET=ALL												
SEX:-----MALE-----FEMALE-----												
GROUP: -1- -2- -3- -4- -1- -2- -3- -4-												
NUMBER: 1 2 3 4 0 2 3 5												
ORGAN AND KEYWORD(S) OR PHRASE												
** FROM PREVIOUS PAGE **												
LUNG (LU)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5			
	NOT REMARKABLE:	1	0	0	0	0	1	1	0			
DARK		0	0	0	0	0	0	0	2			
KIDNEY (KD)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5			
	NOT REMARKABLE:	1	2	3	4	0	2	3	5			
ADRENAL, MEDULLA (AM)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5			
	NOT REMARKABLE:	1	2	3	4	0	2	3	5			
ADRENAL, CORTEX (AC)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5			
	NOT REMARKABLE:	1	2	3	4	0	2	3	5			
LIVER (LI)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5			
	NOT REMARKABLE:	0	2	2	3	0	2	3	4			
MOTTLED		0	0	1	0	0	0	0	0			
PALE AREA		0	0	0	1	0	0	0	1			
PALE		1	0	0	0	0	0	0	0			
SPLEEN (SP)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5			
	NOT REMARKABLE:	1	2	3	4	0	2	2	5			
CAPSULE, PALE FILM		0	0	0	0	0	0	0	1			
PANCREAS (PA)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5			
	NOT REMARKABLE:	1	2	3	4	0	2	3	5			

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---

TABLE INCLUDES:

SEX-ALL; GROUP-ALL; WEEKS-ALL  
DEATH-UNSCHED; SUBSET-ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND KEYWORD(S) OR PHRASE

HEART (HT) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

THYMUS (TH) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 2 5

CYST ..... 0 0 0 0 0 0 0 1 0

TRACHEA (TR) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

THYROID (TY) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

PARATHYROID (PT) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

ESOPHAGUS (ES) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

MAND SALIVARY GL (SG) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

AORTA, THORACIC (AO) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;WEEKS=ALL  
DEATH=UNSCHED;SUBSET=ALL

--- NUMBER - OF - AN I M A L S - A F F E C T E D ---

SEX: ---MALE--- ---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND KEYWORD(S) OR PHRASE

STOMACH, GL (ST) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 4

DISTENDED  
LUMEN, FLUID  
0 0 0 0 0 0 0 1  
0 0 0 0 0 0 0 1

STOMACH, NONGL (SU) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

LUMEN, GAS  
DISTENDED  
1 0 0 0 0 0 0 0  
1 0 0 0 0 0 0 0

DUODENUM (DU) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

LUMEN, GAS  
1 0 0 0 0 0 0 0

JEJUNUM (JE) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 2 5

DARK AREA  
LUMEN, GAS  
0 0 0 0 0 0 0 0  
1 0 0 0 0 0 0 0

ILEUM (IL) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

LUMEN, GAS  
1 0 0 0 0 0 0 0

CECUM (CE) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

LUMEN, GAS  
1 0 0 0 0 0 0 0

TABLE 10B

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 26-APR-88  
PAGE: 68

GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

--- NUMBER OF ANIMALS - AFFECTED ---

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;WEEKS=ALL  
DEATH=UNSCHED;SUBSET=ALL

SEX: -----MALE-----FEMALE-----

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

\*\* FROM PREVIOUS PAGE \*\*

CECUM (CE) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

DISTENDED

1 0 0 0 0 0 0 0

COLON (CO) .....

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

LUMEN, GAS

1 0 0 0 0 0 0 0

RECTUM (RE) .....

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

LN, MESENTERIC (MS) .....

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

TESTIS (TE) .....

NUMBER EXAMINED: 1 2 3 4 0 0 0 0  
NOT REMARKABLE: 1 2 3 4 0 0 0 0

EPIDIDYMIIS (EP) .....

NUMBER EXAMINED: 1 2 3 4 0 0 0 0  
NOT REMARKABLE: 1 2 3 4 0 0 0 0

Ovary (OV) .....

NUMBER EXAMINED: 0 0 0 0 0 0 0 0  
NOT REMARKABLE: 0 0 0 0 0 0 0 0

UTERUS (UT) .....

NUMBER EXAMINED: 0 0 0 0 0 0 0 0  
NOT REMARKABLE: 0 0 0 0 0 0 0 0

TABLE 10B

GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

TABLE INCLUDES: SEX=ALL;GROUP=ALL;WEEKS=ALL DEATH=UNSCHED;SUBSET=ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

URINARY BLADDER (UB) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

PROSTATE (PR) ..... NUMBER EXAMINED: 1 2 3 4 0 0 0 0  
NOT REMARKABLE: 1 2 3 4 0 0 0 0

SEMINAL VESICLE (SV) ..... NUMBER EXAMINED: 1 2 3 4 0 0 0 0  
NOT REMARKABLE: 1 2 3 4 0 0 0 0

SKIN (SK) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

MAMMARY GLAND (MG) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

MUSCLE, SKELETAL (SH) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

EYE (EY) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

LACRIMAL GL, EXO (EO) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5





GROSS PATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

--- NUMBER - OF - ANIMALS - AFFECTED ---

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;WEEKS=ALL  
DEATH=UNSCHED;SUBSET=ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND KEYWORD(S) OR PHRASE

NASAL TURBINATE (NT) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

FRACTURE 1 0 0 0 0 0 0 0

^COLLECTED/TAKEN (XW) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

\*\* END OF LIST \*\*

HISTOPATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

--- NUMBER - OF - ANIMALS - AFFECTED ---

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=T;FIND=ALL;SUBSET=ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 18 17 15

ORGAN AND FINDING DESCRIPTION

\*\* TOP OF LIST \*\*

BRAIN W/STEM (BR) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

CORD, CERVICAL (CS) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

CORD, LUMBAR (LC) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

PITUITARY (PI) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 18 0 0 15 20 0 0 15

--FOCAL DEGENERATION  
--FOCAL VACUOLATION

0 0 0 1 0 0 0 0  
1 0 0 0 0 0 0 0

CORD, THORACIC (TC) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

ADRENAL, MEDULLA (AM) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 15 20 0 0 13

--UNILATERALLY EXAMINED

0 0 0 1 0 0 0 2

ADRENAL, CORTEX (AC) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 17 0 0 15 20 0 0 15

--HYPERTROPHY  
--FOCAL FATTY CHANGE

1 0 0 1 0 0 0 0  
1 0 0 0 0 0 0 0

STUDY NUMBER: 2399110

HISTOPATHOLOGY INCIDENCE SUMMARY

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=T;FIND=ALL;SUBSET=ALL

--- NUMBER - OF - ANIMALS - AFFECTED ---

SEX: ---MALE--- ---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 18 17 15

ORGAN AND FINDING DESCRIPTION

THYROID (TY) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

PARATHYROID (PT) ..... NUMBER EXAMINED: 16 0 0 14 16 0 0 14  
NOT REMARKABLE: 8 0 0 7 11 0 0 5

--UNILATERALLY EXAMINED

TRACHEA (TR) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

ESOPHAGUS (ES) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

LUNG (LU) ..... NUMBER EXAMINED: 19 18 17 16 20 18 17 15  
NOT REMARKABLE: 0 0 0 0 0 0 0 0

--PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID

--INTRA-ALVEOLAR MACROPHAGES

--CONGESTION

--PERIBRON/PERIVAS, INFILT, NEUTROPHILS

--PNEUMONIA, INTERSTITIAL

HEART (HT) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 8 0 0 10 13 0 0 15

--INFLAMMATION, SUBACUTE

--FIBROSIS

11 0 0 5 6 0 0 0  
1 0 0 2 2 0 0 0

HISTOPATHOLOGY INCIDENCE SUMMARY

--- NUMBER - OF - AN I M A L S - A F F E C T E D ---

TABLE INCLUDES:	SEX:	MALE	FEMALE
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL			
DEATH=T;F IND=ALL;SUBSET=ALL			
GROUP: -1- -2- -3- -4- -1- -2- -3- -4-			
NUMBER: 19 18 17 16 20 18 17 15			
ORGAN AND FINDING DESCRIPTION			
SPLEEN (SP) .....	19 0 0 16 20 0 1 15		
NOT REMARKABLE: 19 0 0 16 19 0 0 15			
--CAPSULE, CYST	0 0 0 0 1 0 1 0		
LIVER (LI) .....	19 18 17 16 20 18 17 15		
NOT REMARKABLE: 0 0 0 0 0 0 0 0			
--PORTAL MONONUCLEAR CELL INFILTRATE	19 14 16 16 19 13 17 12		
--INFLAMMATION, SUBACUTE	18 18 17 16 20 18 17 15		
--FATTY CHANGE	6 5 4 6 9 7 6 4		
--COAGULATIVE NECROSIS	1 0 1 0 0 0 1 0		
--NECROSIS, INDIVIDUAL CELL	0 0 1 0 1 0 0 0		
--HEPATOCYTE, HYPERTROPHY	0 0 1 0 0 0 0 0		
--EXTRAMEDULLARY HEMATOPOIESIS, INCREASED	0 0 0 0 1 0 0 0		
KIDNEY (KD) .....	19 18 17 16 20 18 17 15		
NOT REMARKABLE: 5 2 0 0 10 7 6 6			
--TUBULE, REGENERATION	11 12 11 13 7 1 1 5		
--FOCAL MONONUCLEAR CELL INFILTRATE	13 16 16 15 7 10 9 8		
--TUBULE, MINERALIZATION	1 0 0 0 0 1 2 0		
--INTERSTITIUM, FIBROSIS	1 2 0 3 2 0 0 0		
--PELVIS, DILATATION	2 0 0 0 1 0 0 0		
--TRANSITIONAL EPITHELIUM, HYPERPLASIA	0 0 1 2 1 0 0 0		
--CYST	1 0 0 0 0 0 0 0		
--SUPPURATIVE PYELITIS	0 0 1 1 1 1 0 0		
--HYALINE CAST	0 2 1 0 3 1 0 0		
--NEPHROPATHY, CHRONIC PROGRESSIVE	0 2 0 0 2 0 0 0		
--PELVIS, MINERALIZATION	0 0 0 0 0 1 1 0		

HISTOPATHOLOGY INCIDENCE SUMMARY

TABLE INCLUDES: SEX-ALL;GROUP-ALL;SCREEN-ALL;WEEKS-ALL DEATH-T;FIND-ALL;SUBSET-ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 18 17 15

ORGAN AND FINDING DESCRIPTION

PANCREAS (PA) ..... NUMBER EXAMINED: 19 0 1 16 20 1 0 15  
NOT REMARKABLE: 13 0 1 14 20 1 0 11

- INFLAMMATION, SUBACUTE
- INDIVIDUAL CELL DEGENERATION/NECROSIS
- ACUTE HEMORRHAGIC PANCREATITIS
- CYTOPLASMIC ALTERATION, BASOPHILIC

STOMACH, GL (ST) ..... NUMBER EXAMINED: 19 0 0 16 20 1 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

--KERATIN CYST

STOMACH, NONGL (SU) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 18 0 0 13 20 0 0 15

--ACANTHOSIS

DUODENUM (DU) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

JEJUNUM (JE) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

ILEUM (IL) ..... NUMBER EXAMINED: 19 0 0 16 20 0 0 15  
NOT REMARKABLE: 19 0 0 16 20 0 0 15

# SUBCHRONIC TOXICITY STUDY IN RATS

## HISTOPATHOLOGY INCIDENCE SUMMARY

		--- NUMBER OF - ANIMALS - AFFECTED ---												
TABLE INCLUDES:		SEX: -----						-----						
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL		MALE-----						FEMALE-----						
DEATH=T;FIND=ALL;SUBSET=ALL		GROUP: -1- -2- -3- -4- -1- -2- -3- -4-												
		NUMBER: 19 18 17 16 20 18 17 15												
ORGAN AND FINDING DESCRIPTION														
CECUM (CE)	NUMBER EXAMINED:	19	0	0	16	20	0	0	0	15				
	NOT REMARKABLE:	19	0	0	15	19	0	0	0	15				
--DILATATION		0	0	0	1	1	0	0	0	0				
COLON (CO)	NUMBER EXAMINED:	19	0	0	16	20	0	0	0	15				
	NOT REMARKABLE:	19	0	0	15	20	0	0	0	15				
--DILATATION		0	0	0	1	0	0	0	0	0				
RECTUM (RE)	NUMBER EXAMINED:	19	0	0	16	20	0	0	0	15				
	NOT REMARKABLE:	19	0	0	16	20	0	0	0	15				
LN, MESENTERIC (MS)	NUMBER EXAMINED:	19	0	0	16	20	0	0	0	15				
	NOT REMARKABLE:	19	0	0	16	20	0	0	0	15				
TESTIS (TE)	NUMBER EXAMINED:	19	0	2	16	0	0	0	0	0				
	NOT REMARKABLE:	19	0	1	16	0	0	0	0	0				
--UNILATERAL ATROPHY		0	0	1	0	0	0	0	0	0				
EPIDIDYMS (EP)	NUMBER EXAMINED:	19	0	1	16	0	0	0	0	0				
	NOT REMARKABLE:	9	0	0	9	0	0	0	0	0				
--FOCAL MONONUCLEAR CELL INFILTRATE		10	0	0	7	0	0	0	0	0				
--UNILATERAL ATROPHY		0	0	1	0	0	0	0	0	0				
OVARY (OV)	NUMBER EXAMINED:	0	0	0	0	20	0	0	0	15				
	NOT REMARKABLE:	0	0	0	0	19	0	0	0	15				
--AMYLIOSIS		0	0	0	0	1	0	0	0	0				

--- NUMBER - OF - ANIMALS - AFFECTED ---												
TABLE INCLUDES:		SEX:		MALE				FEMALE				
SEX=ALL; GROUP=ALL; SCREEN=ALL; WEEKS=ALL DEATH=T; FIND=ALL; SUBSET=ALL		GROUP:		-1-	-2-	-3-	-4-	-1-	-2-	-3-	-4-	
ORGAN AND FINDING DESCRIPTION		NUMBER:		19	18	17	16	20	18	17	15	
UTERUS (UT)		NUMBER EXAMINED:	0	0	0	0	0	20	1	0	15	
		NOT REMARKABLE:	0	0	0	0	0	16	0	0	14	
--DILATATION			0	0	0	0	0	4	1	0	1	
URINARY BLADDER (UB)		NUMBER EXAMINED:	19	0	0	16	19	0	0	0	14	
		NOT REMARKABLE:	17	0	0	16	17	0	0	0	13	
--FOCAL MONONUCLEAR CELL INFILTRATE			1	0	0	0	0	0	0	0	1	
--CALCULUS			1	0	0	0	0	0	0	0	0	
--LUMEN, PROTEINACIOUS MATERIAL			0	0	0	0	1	0	0	0	0	
--INFLAMMATION, SUBACUTE			0	0	0	0	1	0	0	0	0	
PROSTATE (PR)		NUMBER EXAMINED:	19	0	0	16	0	0	0	0	0	
		NOT REMARKABLE:	5	0	0	7	0	0	0	0	0	
--LUMEN, DEBRIS, CELLULAR			14	0	0	9	0	0	0	0	0	
--INFLAMMATION, SUBACUTE			9	0	0	2	0	0	0	0	0	
--INFLAMMATION, CHRONIC ACTIVE			0	0	0	1	0	0	0	0	0	
SEMINAL VESICLE (SV)		NUMBER EXAMINED:	19	0	0	16	0	0	0	0	0	
		NOT REMARKABLE:	18	0	0	16	0	0	0	0	0	
--LUMEN, DEBRIS, CELLULAR			1	0	0	0	0	0	0	0	0	
THYMUS (TH)		NUMBER EXAMINED:	19	0	0	15	19	0	0	0	13	
		NOT REMARKABLE:	18	0	0	14	19	0	0	0	13	
--EPITHELIAL EMBRYONIC REST			1	0	0	0	0	0	0	0	0	
--CYST			0	0	0	1	0	0	0	0	0	

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---												
TABLE INCLUDES:												
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL												
DEATH=T;FIND=ALL;SUBSET=ALL												
ORGAN AND FINDING DESCRIPTION	SEX: -----			MALE-----			FEMALE-----					
	GROUP:	-1-	-2-	-3-	-4-	-1-	-2-	-3-	-4-			
	NUMBER:	19	18	17	16	20	18	17	15			
MAND SALIVARY GL (SG) .....	NUMBER EXAMINED:	19	0	0	16	20	0	0	15			
	NOT REMARKABLE:	18	0	0	16	20	0	0	15			
--FOCAL MONONUCLEAR CELL INFILTRATE		1	0	0	0	0	0	0	0			
AORTA, THORACIC (AO) .....	NUMBER EXAMINED:	19	0	0	16	20	0	0	15			
	NOT REMARKABLE:	19	0	0	16	20	0	0	15			
EYE (EY) .....	NUMBER EXAMINED:	19	1	1	16	20	0	0	15			
	NOT REMARKABLE:	16	0	0	15	20	0	0	14			
--OPTIC NERVE, FOCAL DEGENERATION		1	0	0	0	0	0	0	0			
--LENS, DEGENERATION		1	1	0	0	0	0	0	0			
--RETINA, DEGENERATION		1	1	0	0	0	0	0	0			
--SYNECHIA, POSTERIOR		1	0	0	0	0	0	0	0			
--KERATITIS		1	0	0	0	0	0	0	0			
--UNILATERALLY EXAMINED		0	0	0	1	0	0	0	0			
--PANOPHTHALMITIS		0	0	1	0	0	0	0	1			
--GLOBE, RUPTURE		0	0	0	0	0	0	0	1			
LACRIMAL GL, EXO (EO) .....	NUMBER EXAMINED:	19	0	0	15	20	0	0	15			
	NOT REMARKABLE:	9	0	0	11	16	0	0	15			
--INFLAMMATION, SUBACUTE		10	0	0	4	4	0	0	0			
--DEGENERATION		2	0	0	3	0	0	0	0			
--UNILATERALLY EXAMINED		1	0	0	0	0	0	0	0			
NERVE, SCIATIC (SN) .....	NUMBER EXAMINED:	19	0	0	16	20	0	0	14			
	NOT REMARKABLE:	19	0	0	13	19	0	0	14			
--UNILATERALLY EXAMINED		0	0	0	3	1	0	0	0			



HISTOPATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

TABLE INCLUDES: SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=T;FIND=ALL;SUBSET=ALL

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TABLE 11A  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
HISTOPATHOLOGY INCIDENCE SUMMARY

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

TABLE INCLUDES:  
SEX=ALL; GROUP=ALL; SCREEN=ALL; WEEKS=ALL  
DEATH=T; FIND=ALL; SUBSET=ALL

--- NUMBER - OF - ANIMALS - AFFECTED ---

SEX: -----MALE-----FEMALE-----

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 19 18 17 16 20 19 17 15

ORGAN AND FINDING DESCRIPTION

\*\*\* FROM PREVIOUS PAGE \*\*\*

SKIN, OTHER (SS) ..... NUMBER EXAMINED: .....  
NOT REMARKABLE:

**--HYPERKERATOSIS**

LN, OTHER (LN)	NUMBER EXAMINED:	NOT REMARKABLE:
.....	.....	.....

\*\*\*  
END OF LIST  
\*\*\*

HISTOPATHOLOGY INCIDENCE SUMMARY

--- NUMBER - OF - ANIMALS - AFFECTED ---

TABLE INCLUDES:

SEX=ALL; GROUP=ALL; SCREEN=ALL; WEEKS=ALL  
DEATH=UNSCHED; FIND=ALL; SUBSET=ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

ORGAN AND FINDING DESCRIPTION

NUMBER: 1 2 3 4 0 2 3 5

\*\* TOP OF LIST \*\*

BRAIN W/STEM (BR)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

CORD, CERVICAL (CS)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

CORD, LUMBAR (LC)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

PITUITARY (PI)

NUMBER EXAMINED: 1 2 3 4 0 2 3 4  
NOT REMARKABLE: 1 2 3 4 0 2 2 4

--EMBRYONAL EPITHELIAL REST

0 0 0 0 0 0 1 0

CORD, THORACIC (TC)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

ADRENAL, MEDULLA (AM)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 1 1 4 0 2 3 5

--UNILATERALLY EXAMINED

0 1 2 0 0 0 0 0

ADRENAL, CORTEX (AC)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 2 4 0 2 2 4

--HYPERTROPHY

0 0 0 0 0 0 0 1

--UNILATERALLY EXAMINED

0 0 1 0 0 0 0 0

--INFLAMMATION, SUBACUTE

0 0 0 0 0 0 1 0

TABLE 11B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
HISTOPATHOLOGY INCIDENCE SUMMARY

SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=UNSCHED;FIND=ALL;SUBSET=ALL

STUDY NUMBER: 2399110

PRINTED: 26-APR-88  
PAGE: 82

--- NUMBER OF ANIMALS - AFFECTED ---

TABLE INCLUDES:  
SEX: --- MALE --- FEMALE ---  
GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND FINDING DESCRIPTION

THYROID (TY) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 2 5

--INFLAMMATION, SUBACUTE

PARATHYROID (PT) ..... NUMBER EXAMINED: 0 2 3 3 0 2 2 5  
NOT REMARKABLE: 0 1 1 1 0 2 2 4

--UNILATERALLY EXAMINED

TRACHEA (TR) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

ESOPHAGUS (ES) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 1 3 4 0 2 3 5

--FOCAL MYODEGENERATION

LUNG (LU) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 0 0 0 0 0 0 0

--PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID

--INTRA-ALVEOLAR MACROPHAGES

--INTRA-ALVEOLAR FOREIGN MATERIAL

--CONGESTION

--EDEMA

--PIGMENT, BROWN

HEART (HT) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 1 3 3 0 0 2 4

--INFLAMMATION, SUBACUTE

\*\* CONTINUED ON NEXT PAGE \*\*

TABLE 11B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
HISTOPATHOLOGY INCIDENCE SUMMARY

SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=UNSCHEO;FIND=ALL;SUBSET=ALL

STUDY NUMBER: 2399110

--- NUMBER - OF - AN I M A L S - A F F E C T E D ---

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=UNSCHEO;FIND=ALL;SUBSET=ALL

SEX: ---MALE---FEMALE---

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND FINDING DESCRIPTION

\*\* FROM PREVIOUS PAGE \*\*

HEART (HT) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 1 3 3 0 0 2 4

--ATRIA, DILATATION  
--FOCAL ENDOCARDIAL CELL HYPERPLASIA

SPLEEN (SP) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 2 4

--PIGMENT, INCREASED  
--CAPSULE, FOCAL FIBROSIS

LIVER (LI) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 0 0 0 0 0 0 2

--PORTAL MONONUCLEAR CELL INFILTRATE  
--INFLAMMATION, SUBACUTE  
--FATTY CHANGE  
--CONGESTION  
--HYALINE INCLUSION, CYTOPLASMIC  
--COAGULATIVE NECROSIS

KIDNEY (KD) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 0 0 0 0 2 3 2

--TUBULE, REGENERATION  
--FOCAL MONONUCLEAR CELL INFILTRATE  
--INTERSTITIUM, FIBROSIS  
--PELVIS, DILATATION  
--CYST  
--HYALINE CAST  
--CONGESTION  
--NEPHROPATHY, CHRONIC PROGRESSIVE

\*\* CONTINUED ON NEXT PAGE \*\*

HISTOPATHOLOGY INCIDENCE SUMMARY

--- NUMBER OF ANIMALS - AFFECTED ---

TABLE INCLUDES:									
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL									
DEATH=UNSCHED;FIND=ALL;SUBSET=ALL									
SEX: -----MALE-----FEMALE-----									
GROUP: -1- -2- -3- -4- -1- -2- -3- -4-									
NUMBER: 1 2 3 4 0 2 3 5									
-----									
ORGAN AND FINDING DESCRIPTION	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	0	0	0	0	2	3	2
** FROM PREVIOUS PAGE **									
KIDNEY (KD)	NUMBER EXAMINED:	0	0	0	0	0	0	0	1
	NOT REMARKABLE:								
--INFLAMMATION, ACUTE									
PANCREAS (PA)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	1	3	4	0	2	3	5
--INFLAMMATION, SUBACUTE									
STOMACH, GL (ST)	NUMBER EXAMINED:	0	1	0	0	0	0	0	0
	NOT REMARKABLE:								
STOMACH, NONGL (SU)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	5
DUODENUM (DU)	NUMBER EXAMINED:	1	2	2	4	0	2	3	5
	NOT REMARKABLE:	1	2	2	4	0	2	3	5
JEJUNUM (JE)	NUMBER EXAMINED:	1	2	2	4	0	2	2	5
	NOT REMARKABLE:	1	2	2	4	0	2	2	5
ILEUM (IL)	NUMBER EXAMINED:	1	2	2	4	0	2	3	5
	NOT REMARKABLE:	1	2	2	4	0	2	3	5
CECUM (CE)	NUMBER EXAMINED:	1	2	3	4	0	2	3	5
	NOT REMARKABLE:	1	2	3	4	0	2	3	5

HISTOPATHOLOGY INCIDENCE SUMMARY

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=UNSCHED;FIND=ALL;SUBSET=ALL

SEX: -----MALE-----FEMALE-----  
GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND FINDING DESCRIPTION

COLON (CO) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

RECTUM (RE) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

LN, MESENTERIC (MS) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

TESTIS (TE) ..... NUMBER EXAMINED: 1 2 3 4 0 0 0 0  
NOT REMARKABLE: 1 2 3 4 0 0 0 0

EPIDIDYMI (EP) ..... NUMBER EXAMINED: 1 2 3 4 0 0 0 0  
NOT REMARKABLE: 1 0 3 3 0 0 0 0

--FOCAL MONONUCLEAR CELL INFILTRATE

OVARY (OV) ..... NUMBER EXAMINED: 0 0 0 0 0 2 3 5  
NOT REMARKABLE: 0 0 0 0 0 2 3 5

UTERUS (UT) ..... NUMBER EXAMINED: 0 0 0 0 0 2 3 5  
NOT REMARKABLE: 0 0 0 0 0 2 3 5

--DILATATION

0 0 0 0 0 0 1 0

--- NUMBER OF ANIMALS AFFECTED ---

TABLE INCLUDES:  
SEX=ALL; GROUP=ALL; SCREEN=ALL; WEEKS=ALL  
DEATH=UNSCHED; FIND=ALL; SUBSET=ALL

SEX: -----MALE-----FEMALE-----

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND FINDING DESCRIPTION

URINARY BLADDER (UB) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 0 2 3 4 0 2 3 5

--FOCAL MONONUCLEAR CELL INFILTRATE

PROSTATE (PR) ..... NUMBER EXAMINED: 1 2 3 4 0 0 0 0  
NOT REMARKABLE: 1 0 1 2 0 0 0 0

--LUMEN, DEBRIS, CELLULAR  
--INFLAMMATION, SUBACUTE

SEMINAL VESICLE (SV) ..... NUMBER EXAMINED: 1 2 2 4 0 0 0 0  
NOT REMARKABLE: 1 0 0 2 0 0 0 0

--LUMEN, DEBRIS, CELLULAR

THYMUS (TH) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 4  
NOT REMARKABLE: 0 2 3 4 0 2 3 4

--ATROPHY

MAND SALIVARY GL (SG) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

AORTA, THORACIC (AO) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

EYE (EY) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 3 0 2 3 5

--PERIORBITAL SUBACUTE INFLAMMATION

0 0 0 0 1 0 0 0



HISTOPATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---

TABLE INCLUDES:  
SEX=ALL;GROUP=ALL;SCREEN=ALL;WEEKS=ALL  
DEATH=UNSCHED;FIND=ALL;SUBSET=ALL

SEX: -----MALE-----FEMALE-----

GROUP: -1- -2- -3- -4- -1- -2- -3- -4-

NUMBER: 1 2 3 4 0 2 3 5

ORGAN AND FINDING DESCRIPTION

LACRIMAL GL, EXO (EO) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 1 2 2 0 2 3 5

--INFLAMMATION, SUBACUTE  
--DEGENERATION

NERVE, SCIATIC (SN) ..... NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 2 5

--INFLAMMATION, SUBACUTE

SKIN (SK) ..... NUMBER EXAMINED: 1 1 3 4 0 2 2 5  
NOT REMARKABLE: 1 1 3 4 0 2 2 5

MAMMARY GLAND (MG)

NUMBER EXAMINED: 1 1 1 4 0 2 2 5  
NOT REMARKABLE: 1 1 1 4 0 2 2 5

MUSCLE, SKELETAL (SM)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

BONE, STERNUM (SB)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

MARROW, STERNUM (SE)

NUMBER EXAMINED: 1 2 3 4 0 2 3 5  
NOT REMARKABLE: 1 2 3 4 0 2 3 5

HISTOPATHOLOGY INCIDENCE SUMMARY

STUDY NUMBER: 2399110

TABLE INCLUDES:		--- N U M B E R - O F - A N I M A L S - A F F E C T E D ---									
SEX=ALL; GROUP=ALL; SCREEN=ALL; WEEKS=ALL	SEX:	-----MALE-----					-----FEMALE-----				
DEATH=UNSCHED; IND=ALL; SUBSET=ALL	GROUP:	-1-	-2-	-3-	-4-	-1-	-2-	-3-	-4-		
ORGAN AND FINDING DESCRIPTION	NUMBER:	1	2	3	4	0	2	3	5		
BONE, FEMUR (FE) .....	NUMBER EXAMINED:	1	2	3	4	0	2	3	5		
	NOT REMARKABLE:	1	2	3	4	0	2	3	5		
NASAL TURBINATE (NT) .....	NUMBER EXAMINED:	1	0	0	0	0	0	0	0		
	NOT REMARKABLE:	0	0	0	0	0	0	0	0		
--HEMORRHAGE		1	0	0	0	0	0	0	0		
--GRANULATION TISSUE		1	0	0	0	0	0	0	0		
SKIN, OTHER (SS) .....	NUMBER EXAMINED:	0	0	2	0	0	0	0	0		
	NOT REMARKABLE:	0	0	0	0	0	0	0	0		
--EAR, ARTICULAR CHONDROPATHY		0	0	1	0	0	0	0	0		
--INFLAMMATION, CHRONIC ACTIVE		0	0	1	0	0	0	0	0		
LH, OTHER (LN) .....	NUMBER EXAMINED:	0	0	0	0	0	1	2	0		
	NOT REMARKABLE:	0	0	0	0	0	0	0	0		
--HYPERPLASIA, LYMPHOID		0	0	0	0	0	0	1	1		
--MEDIASTINUM, ABSCESS		0	0	0	0	0	0	0	1		

\*\* END OF LIST \*\*



**HAZLETON**

LABORATORIES AMERICA, INC.

1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

HLA 2399-110

- 89 -

## APPENDIX 1

### Individual Animal Disposition

STUDY NUMBER: 239110

INDIVIDUAL ANIMAL DISPOSITION

ANIMAL-NUMBER (PIN)	DOSE GROUP	SEX	TERMINAL BODY WEIGHT	DEATH CODE	TYPE OF DEATH	DESCRIPTION OF DEATH	DATE OF DEATH	DAY OF STUDY	WEEK OF STUDY
B08602	1	MALE	487.4	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08603	1	MALE	508.0	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08604	1	MALE	531.7	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08605	1	MALE	418.6	M	UNSCHEDULED	UNSCHEDULED DEATH	07/17/86	92	14
B08606	1	MALE	440.2	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08607	1	MALE	445.8	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08608	1	MALE	505.0	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08609	1	MALE	521.9	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08610	1	MALE	453.1	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08611	1	MALE	601.3	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08612	1	MALE	526.4	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08613	1	MALE	528.4	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08614	1	MALE	553.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08615	1	MALE	406.2	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08616	1	MALE	531.2	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08617	1	MALE	631.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08618	1	MALE	507.7	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08619	1	MALE	454.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08620	1	MALE	583.2	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08621	1	MALE	644.4	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08622	2	MALE	552.5	D	UNSCHEDULED	UNSCHEDULED DEATH	07/18/86	93	14
B08623	2	MALE	477.1	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08624	2	MALE	556.2	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08625	2	MALE	509.0	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08626	2	MALE	555.8	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08627	2	MALE	626.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08628	2	MALE	381.9	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08629	2	MALE	557.7	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08630	2	MALE	505.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08631	2	MALE	537.1	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08632	2	MALE	517.8	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08633	2	MALE	612.8	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08634	2	MALE	554.4	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08635	2	MALE	465.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08636	2	MALE	649.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08637	2	MALE	567.8	D	UNSCHEDULED	UNSCHEDULED DEATH	07/11/86	86	13
B08638	2	MALE	561.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08639	2	MALE	481.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08640	2	MALE	490.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL DISPOSITION

ANIMAL-NUMBER (PIN)	DOSE GROUP	SEX	TERMINAL BODY WEIGHT	DEATH CODE	TYPE OF DEATH	DESCRIPTION OF DEATH	DATE OF DEATH	DAY OF STUDY	WEEK OF STUDY
B08661	2	MALE	498.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08682	3	MALE	510.8	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08683	3	MALE	474.8	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08684	3	MALE	568.5	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08685	3	MALE	530.9	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08686	3	MALE	534.2	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08687	3	MALE	532.6	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08688	3	MALE	480.9	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08689	3	MALE	605.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08690	3	MALE	455.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08691	3	MALE	628.3	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08692	3	MALE	500.4	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08693	3	MALE	457.4	0	UNSCHEDULED	DEATH	05/20/86	34	5
B08694	3	MALE	418.8	0	UNSCHEDULED	DEATH	05/16/86	30	5
B08695	3	MALE	568.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08696	3	MALE	603.0	0	UNSCHEDULED	DEATH	06/26/86	71	11
B08697	3	MALE	445.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08698	3	MALE	511.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08699	3	MALE	536.8	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08700	3	MALE	562.0	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08701	3	MALE	606.6	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08722	4	MALE	418.1	D	UNSCHEDULED	DEATH	06/10/86	55	8
B08723	4	MALE	513.9	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08724	4	MALE	436.4	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08725	4	MALE	345.7	D	UNSCHEDULED	DEATH	05/19/86	33	5
B08726	4	MALE	481.7	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08727	4	MALE	390.0	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08728	4	MALE	391.6	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08729	4	MALE	398.2	D	UNSCHEDULED	DEATH	05/20/86	34	5
B08730	4	MALE	485.3	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08731	4	MALE	515.1	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08732	4	MALE	489.9	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08733	4	MALE	529.1	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08734	4	MALE	475.5	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08735	4	MALE	501.8	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08736	4	MALE	512.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08737	4	MALE	512.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08738	4	MALE	396.9	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08739	4	MALE	545.9	D	UNSCHEDULED	DEATH	06/24/86	69	10

INDIVIDUAL ANIMAL DISPOSITION

ANIMAL-NUMBER (PIN)	DOSE GROUP	SEX	TERMINAL BODY WEIGHT	DEATH CODE	TYPE OF DEATH	DESCRIPTION OF DEATH	DATE OF DEATH	DAY OF STUDY	WEEK OF STUDY
B08740	4	MALE	433.8	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08741	4	MALE	583.2	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08622	1	FEMALE	281.4	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08623	1	FEMALE	331.7	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08624	1	FEMALE	269.9	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08625	1	FEMALE	278.3	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08626	1	FEMALE	321.0	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08627	1	FEMALE	252.4	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08628	1	FEMALE	223.4	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08629	1	FEMALE	328.8	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08630	1	FEMALE	302.9	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08631	1	FEMALE	288.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08632	1	FEMALE	289.1	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08633	1	FEMALE	281.5	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08634	1	FEMALE	271.7	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08635	1	FEMALE	274.0	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08636	1	FEMALE	309.4	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08637	1	FEMALE	302.2	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08638	1	FEMALE	283.4	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08639	1	FEMALE	344.2	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08640	1	FEMALE	344.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08641	1	FEMALE	295.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08662	2	FEMALE	273.2	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08663	2	FEMALE	316.9	D	UNSCHEDULED	UNTERMINAL DEATH	06/06/86	51	8
B08664	2	FEMALE	322.4	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08665	2	FEMALE	311.5	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08666	2	FEMALE	268.8	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08667	2	FEMALE	319.9	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08668	2	FEMALE	288.7	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08669	2	FEMALE	230.7	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08670	2	FEMALE	317.5	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08671	2	FEMALE	286.7	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08672	2	FEMALE	303.4	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08673	2	FEMALE	257.5	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08674	2	FEMALE	276.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08675	2	FEMALE	278.0	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08676	2	FEMALE	279.0	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08677	2	FEMALE	263.7	D	UNSCHEDULED	UNTERMINAL DEATH	06/29/86	74	11
B08678	2	FEMALE	235.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL DISPOSITION

ANIMAL-NUMBER (PIN)	DOSE GROUP	SEX	TERMINAL BODY WEIGHT	DEATH CODE	TYPE OF DEATH	DESCRIPTION OF DEATH	DATE OF DEATH	DAY OF STUDY	WEEK OF STUDY
B08679	2	FEMALE	289.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08680	2	FEMALE	331.1	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08681	2	FEMALE	338.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08702	3	FEMALE	337.2	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08703	3	FEMALE	322.3	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08704	3	FEMALE	320.6	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08705	3	FEMALE	193.0	D	UNSCHEDULED	UNSCHEDULED DEATH	04/21/86	5	1
B08706	3	FEMALE	280.0	D	UNSCHEDULED	UNSCHEDULED DEATH	06/09/86	54	8
B08707	3	FEMALE	322.7	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08708	3	FEMALE	315.0	D	UNSCHEDULED	UNSCHEDULED DEATH	07/18/86	93	14
B08709	3	FEMALE	269.0	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08710	3	FEMALE	303.9	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08711	3	FEMALE	274.4	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08712	3	FEMALE	298.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08713	3	FEMALE	315.1	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08714	3	FEMALE	328.9	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08715	3	FEMALE	315.8	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08716	3	FEMALE	287.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08717	3	FEMALE	322.6	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08718	3	FEMALE	339.0	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08719	3	FEMALE	279.5	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08720	3	FEMALE	269.2	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08721	3	FEMALE	324.9	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08742	4	FEMALE	299.4	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08743	4	FEMALE	186.4	D	UNSCHEDULED	UNSCHEDULED DEATH	06/02/86	47	7
B08744	4	FEMALE	285.7	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08745	4	FEMALE	303.6	D	UNSCHEDULED	UNSCHEDULED DEATH	05/23/86	37	6
B08746	4	FEMALE	258.8	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08747	4	FEMALE	307.5	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08748	4	FEMALE	258.1	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08749	4	FEMALE	288.4	T	SCHEDULED	TERMINAL SACRIFICE	07/21/86	96	14
B08750	4	FEMALE	270.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08751	4	FEMALE	273.9	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08752	4	FEMALE	266.6	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08753	4	FEMALE	260.9	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08754	4	FEMALE	180.3	D	UNSCHEDULED	UNSCHEDULED DEATH	04/20/86	4	1
B08755	4	FEMALE	280.5	T	SCHEDULED	TERMINAL SACRIFICE	07/22/86	97	14
B08756	4	FEMALE	218.6	D	UNSCHEDULED	UNSCHEDULED DEATH	07/18/86	93	14
B08757	4	FEMALE	265.7	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL DISPOSITION

ANIMAL-NUMBER (PIN)	ANIMAL-NUMBER (HAN)	DOSE GROUP	SEX	TERMINAL BODY WEIGHT	DEATH CODE	TYPE OF DEATH	DESCRIPTION OF DEATH	DATE OF DEATH	DAY OF STUDY	WEEK OF STUDY
B08758	865784	4	FEMALE	284.3	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08759	865785	4	FEMALE	332.8	D	UNSCHEDULED	UNSCHEDULED DEATH	07/18/86	93	14
B08760	865786	4	FEMALE	258.6	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14
B08761	865787	4	FEMALE	283.2	T	SCHEDULED	TERMINAL SACRIFICE	07/23/86	98	14





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## APPENDIX 2

### Individual Clinical Signs

APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
2399-110

WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
0	1M	8602	SORES	NECK
1	1M	8602	SORES	NECK
2	1M	8602	SORES	NECK
	2M	8660	MALOCCLUSION	
	4M	8728	SALIVATION	
3	1M	8602	SORES	NECK
	1M	8612	SOFT FECES	
	1M	8621	SORES	EAR-RIGHT
	2M	8653	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
	2M	8654	SENSITIVE TO TOUCH	
	2M	8660	MALOCCLUSION	
	3M	8690	ALOPECIA	HEAD
	4M	8726	SALIVATION	
	4M	8727	SALIVATION	
	4M	8728	SALIVATION	
	4M	8730	SALIVATION	
	4M	8735	SALIVATION	
4	1M	8602	SORES	NECK
	1M	8621	SORES	EAR-RIGHT
	2M	8642	SORES	EAR-RIGHT
	2M	8644	SORES	EAR-RIGHT
	2M	8646	SORES	EAR-RIGHT
	2M	8649	SORES	EAR-RIGHT
	2M	8653	MALOCCLUSION	
			SORES	EAR-RIGHT
	2M	8654	SENSITIVE TO TOUCH	
			SORES	EAR-RIGHT
	2M	8655	SORES	EAR-RIGHT
	2M	8657	SORES	EAR-RIGHT
	2M	8659	SORES	EAR-RIGHT
	2M	8660	MALOCCLUSION	
	3M	8685	SORES	EAR-RIGHT
	3M	8686	SENSITIVE TO TOUCH	
	3M	8688	SORES	EAR-RIGHT
	3M	8689	SORES	EAR-RIGHT
	3M	8690	ALOPECIA	HEAD
	3M	8691	SORES	EAR-RIGHT
	3M	8693	SORES	EAR-RIGHT
	3M	8694	SORES	EAR-RIGHT
	3M	8697	SORES	EAR-RIGHT
	3M	8699	SENSITIVE TO TOUCH	
	3M	8700	SORES	EAR-RIGHT
	3M	8701	SORES	EAR-RIGHT
	4M	8723	SORES	EAR-RIGHT
	4M	8724	SALIVATION	
			SORES	EAR-RIGHT

APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
2399-110

WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
4	4M	8726	SORES	EAR-RIGHT
	4M	8728	SALIVATION	
	4M	8730	SALIVATION	
			SORES	EAR-RIGHT
	4M	8732	SORES	EAR-RIGHT
	4M	8733	SORES	EAR-RIGHT
	4M	8735	SALIVATION	
			SORES	EAR-RIGHT
	4M	8736	SORES	EAR-RIGHT
	4M	8738	SORES	EAR-RIGHT
	4M	8739	SORES	EAR-RIGHT
	4M	8740	SORES	EAR-RIGHT
5	1M	8602	SORES	NECK
	1M	8607	OPAQUE	EYE-RIGHT
	2M	8645	OPAQUE	EYE-RIGHT
	2M	8650	SORES	NECK
	2M	8653	MALOCCLUSION	
			SORES	EAR-RIGHT
	2M	8660	MALOCCLUSION	
	4M	8727	SALIVATION	
	4M	8728	SALIVATION	
	4M	8730	SALIVATION	
	4M	8738	CHROMODACRYORRHEA	EYE-LEFT
6	2M	8645	OPAQUE	EYE-RIGHT
	2M	8653	MALOCCLUSION	
	4M	8738	TEETH CUT	
			MALOCCLUSION	
7	2M	8653	MALOCCLUSION	
8	1M	8602	SORES	NECK
	1M	8607	OPAQUE	EYE-RIGHT
	1M	8615	SORES	EAR-RIGHT
	2M	8645	OPAQUE	EYE-RIGHT
	2M	8653	MALOCCLUSION	
	2M	8655	SORES	EAR-RIGHT
	2M	8658	ALOPECIA	PAWS-FORE-BOTH
	2M	8660	MALOCCLUSION	
	4M	8738	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
9	1M	8602	SORES	NECK
	1M	8607	SORES	NECK
			OPAQUE	EYE-RIGHT
	2M	8645	OPAQUE	EYE-RIGHT
	2M	8653	MALOCCLUSION	
	2M	8658	ALOPECIA	PAWS-FORE-BOTH
	2M	8660	MALOCCLUSION	
	3M	8688	EXCRETIONS / OTHER *	
	3M	8692	MALOCCLUSION	

\* Blood in urine

APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
2399-110

WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
9	3M	8692	CHROMODACRYORRHEA	EYE-LEFT
	4M	8728	SALIVATION	
	4M	8735	SALIVATION	
	4M	8738	MALOCCLUSION	
10	1M	8607	SORES	NECK
			OPAQUE	EYE-RIGHT
			OPAQUE	EYE-RIGHT
	2M	8645		
	2M	8653	MALOCCLUSION	
	2M	8660	MALOCCLUSION	
	3M	8692	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	4M	8738	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
11	1M	8606	MALOCCLUSION	
			CHROMODACRYORRHEA	EYES-BOTH
	1M	8607	OPAQUE	EYE-RIGHT
	2M	8645	OPAQUE	EYE-RIGHT
	2M	8653	MALOCCLUSION	
	2M	8660	MALOCCLUSION	
	3M	8688	MALOCCLUSION	
			EXCRETIONS / OTHER *	
			CHROMODACRYORRHEA	EYE-RIGHT
	3M	8692	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	4M	8728	SALIVATION	
	4M	8738	MALOCCLUSION	
			SALIVATION	
			CHROMODACRYORRHEA	EYE-LEFT
12	1M	8606	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	1M	8607	OPAQUE	EYE-RIGHT
	2M	8645	OPAQUE	EYE-RIGHT
	2M	8653	MALOCCLUSION	
	2M	8660	MALOCCLUSION	
	3M	8688	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
	3M	8692	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	3M	8695	SORES	MOUTH
	4M	8730	SALIVATION	
	4M	8738	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
13	1M	8605	THIN	ENTIRE BODY
			MALOCCLUSION	
			LANGUID	
			DYSPNEA	
			ROUGH HAIRCOAT	

\* Blood in urine

APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
2399-110

WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
13	1M	8605	CHROMODACRYORRHEA	EYES-BOTH
	1M	8606	TEETH CUT	
			MALOCCLUSION	
	1M	8607	OPAQUE	EYE-RIGHT
	1M	8608	OPAQUE	EYE-RIGHT
	2M	8645	OPAQUE	EYE-RIGHT
	2M	8653	TEETH CUT	
			MALOCCLUSION	
	2M	8660	TEETH CUT	
			MALOCCLUSION	
	3M	8688	TEETH CUT	
			MALOCCLUSION	
	3M	8691	OPAQUE	EYE-RIGHT
			CHROMODACRYORRHEA	EYE-RIGHT
	3M	8692	TEETH CUT	
			MALOCCLUSION	
	4M	8738	TEETH CUT	
			MALOCCLUSION	

APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
2399-110

WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
0	2F	8671	SKIN / OTHER	EAR-RIGHT
1	2F	8671	SKIN / OTHER *	EAR-RIGHT
2	4F	8756	SALIVATION	
	4F	8758	SALIVATION	
3	2F	8663	SORES	EAR-RIGHT
	2F	8668	MALOCCLUSION	
			CHROMODACRYORRHEA	EYES-BOTH
	3F	8708	SMALL MOVEABLE TISSUE MASS	VENTRL-FT-LEFT
	4F	8751	SALIVATION	
	4F	8753	SALIVATION	
	4F	8758	SALIVATION	
4	1F	8625	SORES	EAR-RIGHT
	1F	8626	SORES	EAR-RIGHT
	1F	8629	SORES	EAR-RIGHT
	1F	8631	SORES	EAR-RIGHT
	1F	8634	SORES	EAR-RIGHT
	1F	8636	SORES	EAR-RIGHT
	1F	8637	SORES	EAR-RIGHT
	1F	8639	SORES	EAR-RIGHT
	1F	8640	SORES	EAR-RIGHT
	2F	8663	SENSITIVE TO TOUCH	
			SORES	EAR-RIGHT
	2F	8667	SORES	EAR-RIGHT
	2F	8668	MALOCCLUSION	
			SORES	EAR-RIGHT
	2F	8671	SORES	EAR-LEFT
	2F	8673	SORES	EAR-RIGHT
	2F	8675	SORES	EAR-RIGHT
	2F	8678	SORES	EAR-RIGHT
	2F	8679	SORES	EAR-RIGHT
	3F	8704	SORES	EAR-RIGHT
	3F	8708	SMALL MOVEABLE TISSUE MASS	VENTRL-FT-LEFT
	3F	8712	SORES	EAR-RIGHT
	3F	8715	SORES	EAR-RIGHT
	3F	8717	SORES	EAR-RIGHT
	4F	8743	SORES	EAR-RIGHT
	4F	8745	SORES	EAR-RIGHT
	4F	8749	SORES	EAR-RIGHT
	4F	8755	SORES	EAR-RIGHT
	4F	8756	SORES	EAR-RIGHT
	4F	8759	SORES	EAR-RIGHT
	4F	8760	SORES	EAR-RIGHT
5	1F	8622	CHROMODACRYORRHEA	EYE-RIGHT
	1F	8636	ALOPECIA	LEGS-FORE-BOTH
			ALOPECIA	LEGS-HIND-BOTH
	2F	8668	MALOCCLUSION	
	2F	8679	SORES	EAR-RIGHT

\* Ear torn

APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
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WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
5	3F	8703	EYES / OTHER *	EYE-RIGHT
			SWOLLEN	FACE
	3F	8708	SMALL MOVEABLE TISSUE MASS	VENTRL-FT-LEFT
	3F	8715	ALOPECIA	LEGS-FORE-BOTH
	4F	8743	SALIVATION	
	4F	8746	SALIVATION	
	4F	8747	SALIVATION	
	4F	8748	SALIVATION	
	4F	8750	EYES / OTHER *	EYE-RIGHT
	4F	8751	SALIVATION	
	4F	8758	SALIVATION	
	4F	8759	SORES	EAR-RIGHT
6	2F	8668	TEETH CUT	
			MALOCCLUSION	
	2F	8679	TEETH CUT	
			MALOCCLUSION	
	3F	8703	EXOPHTHALMUS	EYE-RIGHT
			ULCERATED	EYE-RIGHT
	3F	8708	SMALL MOVEABLE TISSUE MASS	VENTRL-FT-LEFT
	3F	8715	ALOPECIA	LEGS-FORE-BOTH
			ALOPECIA	LEGS-HIND-BOTH
	4F	8750	EXOPHTHALMUS	EYE-RIGHT
			ULCERATED	EYE-RIGHT
7	2F	8668	MALOCCLUSION	
	2F	8679	MALOCCLUSION	
	3F	8708	SMALL MOVEABLE TISSUE MASS	VENTRL-FT-LEFT
8	1F	8634	SORES	EAR-RIGHT
	1F	8635	MALOCCLUSION	
	1F	8636	ALOPECIA	PAWS-ALL
	2F	8668	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	2F	8673	ALOPECIA	PAWS-FORE-BOTH
	2F	8679	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
	3F	8703	ULCERATED	EYE-RIGHT
	3F	8708	SMALL MOVEABLE TISSUE MASS	VENTRL-FT-LEFT
	3F	8720	MALOCCLUSION	
	4F	8750	ULCERATED	EYE-RIGHT
9	1F	8635	MALOCCLUSION	
	1F	8636	ALOPECIA	ABDOMEN
			ALOPECIA	PAWS-ALL
	2F	8668	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	2F	8673	ALOPECIA	PAWS-FORE-BOTH
	2F	8679	MALOCCLUSION	
			CHROMODACRYORRHEA	EYES-BOTH
	3F	8703	ULCERATED	EYE-RIGHT

\* Red film over eye

APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
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WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
9	3F	8708	ALOPECIA	SHOULDER-RIGHT
			SMALL MOVEABLE TISSUE MASS	VENTRL-FT-LEFT
	3F	8712	ALOPECIA	LEG-FORE-RIGHT
	3F	8715	SORES	PAWS-ALL
	3F	8720	MALOCCLUSION	
	4F	8744	SALIVATION	
	4F	8748	SALIVATION	
	4F	8750	ULCERATED	EYE-RIGHT
	4F	8751	SALIVATION	
	4F	8757	SALIVATION	
10	1F	8635	MALOCCLUSION	
	1F	8636	ALOPECIA	PAWS-ALL
	2F	8668	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	2F	8673	ALOPECIA	PAWS-FORE-BOTH
	2F	8679	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
	3F	8702	CHROMODACRYORRHEA	EYE-RIGHT
	3F	8703	ULCERATED	EYE-RIGHT
	3F	8708	ALOPECIA	SHOULDER-RIGHT
11			SORES	SIDE-LEFT
	3F	8712	ALOPECIA	LEG-FORE-RIGHT
	3F	8715	SORES	PAWS-ALL
	3F	8720	MALOCCLUSION	
	4F	8748	SALIVATION	
	4F	8750	ULCERATED	EYE-RIGHT
	4F	8751	SALIVATION	
	1F	8629	SORES	PAW-FORE-LEFT
	1F	8635	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
12	1F	8636	ALOPECIA	PAWS-ALL
	2F	8668	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	2F	8673	ALOPECIA	PAWS-FORE-BOTH
	2F	8679	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
	3F	8703	ULCERATED	EYE-RIGHT
	3F	8708	ALOPECIA	SHOULDER-RIGHT
	3F	8712	SORES	PAWS-FORE-BOTH
	3F	8715	SORES	PAWS-ALL
12	3F	8720	MALOCCLUSION	
	4F	8750	ULCERATED	EYE-RIGHT
	4F	8759	APPEARANCE / OTHER *	
	1F	8629	ALOPECIA	PAW-FORE-LEFT
	1F	8635	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
	1F	8636	ALOPECIA	PAWS-ALL

\* Tooth missing



APPENDIX 2  
INDIVIDUAL CLINICAL OBSERVATIONS  
2399-110

WEEK	GROUP & SEX	ANIMAL NUMBER	CLINICAL OBSERVATION	BODY AREA
12	2F	8668	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-LEFT
	2F	8673	ALOPECIA	PAWS-FORE-BOTH
	2F	8679	MALOCCLUSION	
			CHROMODACRYORRHEA	EYE-RIGHT
	3F	8703	ULCERATED	EYE-RIGHT
	3F	8708	ALOPECIA	SHOULDER-RIGHT
	3F	8712	SORES	PAWS-FORE-BOTH
	3F	8715	SORES	PAWS-ALL
	4F	8747	SALIVATION	
	4F	8750	ULCERATED	EYE-RIGHT
	4F	8751	SALIVATION	
	4F	8753	SALIVATION	
	4F	8758	SALIVATION	
13	1F	8635	MALOCCLUSION	
	2F	8668	TEETH CUT	
			MALOCCLUSION	
	2F	8679	TEETH CUT	
			MALOCCLUSION	
	3F	8703	MISSING	EYE-RIGHT
	4F	8750	MISSING	EYE-RIGHT
	4F	8756	THIN	ENTIRE BODY
			URINE STAINS	INGUINALS-BOTH



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### APPENDIX 3

#### Individual Body Weights

APPENDIX 3  
INDIVIDUAL BODY WEIGHTS (G)  
SUBCHRONIC TOXICITY STUDY IN RATS

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ANIMAL NUMBER	WEEKS												
	0	1	2	3	4	5	6	7	8	9	10	11	12
GROUP 1 MALES - CONTROL													
8602	225.7	277.2	321.2	356.6	383.4	390.6	426.1	448.4	443.8	469.6	490.4	495.4	509.9
8603	202.4	249.1	291.9	337.6	377.7	393.7	424.1	451.0	469.7	485.8	495.4	495.4	526.7
8604	220.1	263.0	302.9	342.4	381.6	403.6	440.7	469.9	484.2	510.1	524.7	540.8	552.1
8605	240.4	229.0	301.4	340.8	370.0	377.1	415.0	437.5	463.0	479.9	495.5	504.5	507.5
8606	224.7	266.5	298.0	334.1	356.5	350.6	378.9	399.8	413.6	430.8	449.7	436.0	449.6
8607	223.6	265.1	305.6	344.7	380.0	375.9	395.8	414.2	427.4	440.8	454.4	460.5	469.2
8608	232.7	278.3	322.8	365.0	393.3	405.4	435.9	440.7	468.1	490.8	501.9	520.1	526.5
8609	238.8	289.8	335.6	369.8	403.9	424.6	449.8	473.0	493.1	512.8	526.9	540.2	549.1
8610	224.0	264.6	298.9	331.8	356.7	366.3	380.5	393.7	410.2	423.6	447.9	457.0	469.2
8611	231.5	276.1	322.9	368.9	411.2	414.8	442.5	501.9	533.2	550.8	579.9	598.0	609.9
8612	234.3	289.1	330.8	370.8	412.1	431.7	455.8	475.5	494.6	508.9	517.7	522.7	536.0
8613	231.8	273.6	318.2	354.5	392.4	410.6	434.6	457.8	473.6	491.4	511.8	523.3	534.3
8614	226.6	270.9	306.5	334.9	368.8	389.4	417.5	448.1	462.2	476.1	479.4	506.3	525.5
8615	232.4	275.5	295.5	322.7	345.6	369.1	373.4	387.0	390.8	407.1	416.3	420.0	427.5
8616	238.7	284.3	330.2	363.1	406.1	432.9	450.9	471.8	492.7	503.7	520.6	536.2	540.0
8617	233.6	282.6	306.8	378.7	422.9	457.5	493.0	519.9	545.4	568.7	596.8	621.2	634.6
8618	233.3	280.9	315.2	349.4	381.5	408.4	429.4	436.3	454.8	468.0	491.1	506.4	517.1
8619	199.1	244.1	288.4	321.4	343.3	361.2	387.0	400.9	421.3	432.9	451.7	460.2	467.2
8620	239.6	286.3	329.9	365.5	405.3	442.9	464.1	496.9	515.3	533.9	564.2	577.2	582.3
8621	257.8	309.3	355.3	406.2	451.6	484.0	517.9	549.1	568.8	598.3	620.2	637.4	653.5
GROUP 2 MALES - 100.0000 MG/KG													
8642	216.6	270.0	320.7	371.4	410.9	434.1	449.6	478.8	505.5	525.9	544.4	557.9	558.4
8643	230.4	270.9	311.4	340.6	372.1	385.2	416.1	445.3	457.8	466.3	480.4	495.3	494.6
8644	230.9	290.3	338.7	381.3	416.9	431.0	465.4	494.0	514.3	535.2	538.2	567.5	577.8
8645	258.4	295.3	338.1	377.6	388.1	421.5	453.0	473.2	490.9	499.8	508.2	522.5	535.9
8646	242.6	294.4	345.3	393.9	433.6	445.4	483.3	509.7	529.4	541.0	558.1	566.3	578.0
8647	240.7	296.8	350.4	399.1	449.1	471.2	508.6	537.3	552.6	576.5	608.2	616.8	624.6
8648	220.0	262.4	300.0	350.1	369.8	383.7	403.0	436.8	447.1	449.2	451.9	446.5	413.9
8649	226.2	278.0	322.4	359.8	395.5	399.2	438.2	468.2	499.7	520.0	538.6	552.6	569.9
8650	228.7	285.0	328.6	366.1	395.5	389.3	417.4	438.7	464.0	481.6	499.4	513.4	523.4
8651	239.4	290.3	330.9	376.1	405.6	425.8	451.9	480.4	503.4	517.1	535.7	547.9	554.4
8652	228.0	275.4	318.6	355.6	379.9	405.5	436.8	453.4	479.3	494.9	501.6	507.8	531.2
8653	243.1	289.1	335.2	373.4	408.4	437.6	471.0	497.5	530.9	554.8	581.3	594.8	614.5
8654	231.1	276.3	321.0	362.0	404.6	431.8	458.1	480.9	494.2	517.2	535.8	554.1	555.1
8655	217.5	259.4	295.3	329.9	358.1	388.2	409.1	430.5	447.4	458.7	464.9	478.0	483.4
8656	256.7	306.0	360.8	404.0	454.9	492.5	531.5	555.8	570.8	601.1	619.4	633.4	649.2
8657	246.4	283.4	319.3	367.7	405.8	438.4	465.9	491.5	512.2	524.4	546.1	558.7	564.6
8658	248.5	294.4	344.3	387.1	416.6	444.7	474.5	497.0	515.6	529.0	549.1	560.7	568.1
8659	218.0	266.8	315.4	358.0	391.9	416.0	441.2	465.0	477.1	484.0	491.9	497.0	499.3
8660	231.4	273.4	293.8	340.8	377.3	399.5	431.5	451.5	464.1	477.1	491.6	499.7	510.9
8661	225.2	275.7	315.7	350.6	383.0	399.7	418.8	447.8	464.1	477.1	492.0	500.5	510.8

\* = DEAD ANIMAL

APPENDIX 3 - CONTINUED  
INDIVIDUAL BODY WEIGHTS (G)  
SUBCHRONIC TOXICITY STUDY IN RATS

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ANIMAL NUMBER	GROUP	WEEKS												
		0	1	2	3	4	5	6	7	8	9	10	11	12
	3 MALES	200.0000 MG/KG												
8682	229.9	280.8	325.3	370.7	398.1	416.1	440.4	472.7	482.1	505.0	515.8	524.9	531.8	532.8
8683	220.8	268.3	313.1	353.2	358.7	401.9	425.1	425.1	442.1	457.7	471.5	485.2	495.7	500.9
8684	232.0	285.6	335.7	373.0	415.3	429.5	466.0	485.0	483.2	518.1	540.4	561.1	578.9	587.6
8685	223.3	278.8	322.9	369.2	406.7	427.2	454.7	476.3	491.8	505.5	527.9	535.9	552.6	553.5
8686	233.1	290.2	340.7	379.7	412.4	429.9	455.3	484.6	506.6	507.7	511.9	532.5	560.7	563.2
8687	221.1	278.3	313.2	363.4	390.4	422.7	449.6	467.3	491.3	501.7	514.2	536.3	540.0	565.4
8688	223.5	272.8	318.2	359.3	383.2	402.1	429.2	448.1	451.2	474.8	489.0	472.4	496.8	503.2
8689	246.9	309.0	362.4	406.7	454.4	467.3	502.0	529.3	555.1	574.5	596.5	612.4	622.3	623.9
8690	235.6	280.9	310.7	341.5	370.6	377.7	400.9	413.9	431.4	444.7	453.6	464.6	476.4	474.1
8691	241.1	295.4	354.6	411.9	455.7	484.4	523.1	559.9	592.7	597.3	611.9	638.3	659.6	659.1
8692	231.5	285.1	321.2	358.9	384.1	407.0	428.8	453.3	475.9	454.4	477.9	496.4	508.6	521.4
8693	247.5	301.5	351.6	399.3	423.4	*	*	*	*	*	*	*	*	*
8694	241.7	286.5	333.2	374.2	420.0	*	*	*	*	*	*	*	*	*
8695	215.0	272.5	296.7	364.1	406.5	441.3	471.6	495.0	510.9	531.8	547.3	564.4	583.9	595.7
8696	244.5	297.1	355.9	406.7	451.0	480.8	519.5	546.0	571.4	590.2	611.8	*	*	*
8697	224.9	270.4	303.8	328.9	353.4	375.8	400.3	416.8	424.4	438.8	449.8	453.4	459.3	466.6
8698	242.5	289.4	335.8	371.8	402.0	427.3	456.9	475.7	484.7	495.0	512.8	523.6	530.2	542.4
8699	241.8	292.9	334.1	363.0	396.6	423.0	437.9	469.2	491.5	507.1	516.9	534.8	546.1	562.3
8700	225.2	275.3	324.3	365.1	407.7	432.2	468.6	493.7	515.0	539.1	548.1	569.5	575.7	593.3
8701	214.1	264.4	314.1	364.2	415.3	441.1	473.1	504.7	523.5	549.9	563.9	590.0	602.3	628.7
	4 MALES	800.0000 MG/KG												
8722	227.3	279.9	320.7	341.5	359.5	362.2	395.9	406.1	*	*	*	*	*	*
8723	231.3	270.1	329.1	364.8	394.9	412.1	447.3	465.2	474.7	497.5	516.9	536.7	546.3	539.1
8724	246.5	290.7	329.2	357.2	383.2	398.0	419.9	433.0	450.8	464.8	421.2	457.5	453.9	460.2
8725	216.5	248.5	296.0	327.5	345.6	*	*	*	*	*	*	*	*	*
8726	234.1	278.0	322.6	361.1	393.8	402.6	435.7	449.4	464.1	474.9	490.4	511.3	513.3	517.4
8727	229.7	272.4	292.8	315.0	329.1	334.1	361.4	369.1	385.2	397.4	406.5	412.7	419.0	417.8
8728	231.5	275.4	289.2	315.5	337.8	339.9	362.3	371.5	375.7	396.5	405.4	414.0	414.6	407.8
8729	239.3	285.1	331.0	359.6	387.8	*	*	*	*	*	*	*	*	*
8730	247.5	292.1	331.2	360.2	391.2	408.7	438.3	458.5	473.3	471.4	497.0	510.0	515.4	508.1
8731	245.1	300.7	340.6	383.3	409.5	385.7	444.1	472.6	486.2	502.5	511.5	528.0	538.2	542.3
8732	219.6	265.5	305.3	336.2	371.9	394.7	425.9	445.8	470.3	436.4	479.3	505.1	517.9	512.7
8733	244.5	292.2	339.4	379.5	412.0	442.2	464.1	492.9	489.5	517.5	533.7	553.6	568.7	556.1
8734	223.4	248.9	296.1	338.9	367.3	401.7	419.1	432.4	445.1	463.6	467.9	487.2	494.6	503.3
8735	230.3	283.8	325.5	361.6	391.6	421.1	451.5	476.6	481.1	500.3	518.9	534.6	532.9	547.5
8736	222.9	220.9	285.9	338.9	380.9	407.2	441.1	462.0	481.7	494.7	474.0	498.1	517.8	542.2
8737	227.4	275.4	323.9	358.8	395.7	422.7	447.3	468.6	485.8	501.7	514.0	529.3	509.1	534.4
8738	233.6	276.3	310.5	331.8	308.3	340.3	366.6	349.9	389.9	401.1	405.5	380.3	417.0	423.7
8739	249.2	306.6	360.8	382.7	423.8	441.8	474.6	498.8	520.6	537.1	*	*	*	*
8740	223.7	267.6	303.5	338.8	362.9	382.1	401.5	416.6	430.4	448.4	456.1	465.7	454.2	455.7
8741	230.5	282.1	337.9	382.8	426.8	462.2	496.2	521.1	531.5	554.2	571.1	590.8	586.5	608.8

\* = DEAD ANIMAL

APPENDIX 3 - CONTINUED  
INDIVIDUAL BODY WEIGHTS (G)  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	0	1	2	3	4	5	6	7	8	9	10	11	12	13
GROUP	WEEKS													
1 FEMALES - CONTROL														
8622	168.7	197.3	212.9	238.5	244.3	263.1	262.4	277.9	277.7	276.9	292.9	295.0	296.1	296.1
8623	180.3	211.8	230.1	253.2	272.5	269.5	291.2	308.9	312.7	326.2	344.8	339.2	346.3	348.3
8624	186.2	211.6	227.9	240.1	265.4	260.8	261.3	285.7	282.5	270.7	300.6	254.2	279.4	292.6
8625	178.7	197.2	208.8	229.6	241.9	236.7	258.2	275.4	275.0	274.9	280.7	290.3	293.1	292.5
8626	181.5	195.5	226.7	251.4	264.6	252.8	275.7	304.7	303.2	304.0	329.0	330.0	335.2	327.8
8627	171.3	187.8	198.2	201.2	221.0	224.3	238.2	250.5	250.9	257.8	263.1	262.2	262.0	274.2
8628	170.5	187.6	202.9	224.1	228.6	231.6	246.7	247.5	244.9	243.6	251.4	244.0	240.7	230.3
8629	182.2	206.0	228.4	249.4	271.2	279.6	284.4	302.5	323.5	337.0	337.9	338.5	346.4	352.3
8630	185.3	205.9	229.6	249.0	265.3	263.4	282.7	290.0	298.9	306.0	308.0	312.7	315.0	317.5
8631	175.8	188.7	214.0	241.7	246.8	258.7	277.1	283.9	277.5	290.9	290.9	300.1	300.3	303.7
8632	169.9	192.4	205.8	230.5	227.5	251.0	262.2	272.6	278.5	292.9	296.4	299.0	305.0	308.6
8633	173.7	191.5	209.4	228.6	228.7	252.3	258.9	269.4	280.4	274.6	295.3	288.5	295.2	301.6
8634	169.2	184.4	207.6	215.2	230.5	243.9	239.7	256.8	264.4	247.9	274.2	271.1	284.1	286.0
8635	166.6	191.4	209.4	225.2	239.6	254.6	264.7	264.6	272.8	278.5	289.9	278.2	283.3	288.2
8636	179.9	199.9	228.1	252.9	263.6	264.7	295.2	302.0	300.0	300.7	320.3	316.7	320.9	319.5
8637	161.7	187.5	210.1	230.4	246.6	259.0	271.6	268.9	290.2	296.4	301.4	305.6	313.9	324.2
8638	179.0	206.5	223.5	247.1	265.3	288.1	262.5	273.8	284.9	289.8	295.0	293.2	298.3	297.2
8639	172.5	195.2	208.4	229.1	235.5	256.8	309.8	307.9	324.4	331.9	364.2	351.6	354.3	360.2
8640	172.8	196.2	226.3	241.8	274.5	288.5	300.6	304.1	319.5	331.6	341.6	340.9	352.7	357.8
8641	169.3	183.0	211.6	232.2	238.8	263.7	275.7	282.8	284.0	300.4	302.7	308.0	307.1	318.5
2 FEMALES - 100.0000 MG/KG														
8662	177.0	189.8	210.8	219.9	232.7	245.7	244.8	260.0	271.1	275.8	278.1	278.6	290.2	293.6
8663	183.6	202.2	222.6	254.8	286.9	283.4	291.8	319.5	314.4	324.7	342.0	340.1	336.2	347.1
8664	189.8	213.7	241.7	262.7	267.8	281.9	301.8	317.5	309.4	323.8	322.6	321.8	327.9	328.3
8665	183.1	206.3	231.1	252.2	266.8	275.3	285.0	298.2	279.4	287.0	281.5	293.6	282.6	291.0
8666	169.9	188.0	215.9	237.3	238.4	257.6	261.3	284.0	317.4	324.1	327.0	327.7	338.8	345.2
8667	188.0	209.0	234.1	248.6	268.2	277.9	298.8	307.2	269.6	282.3	293.7	296.7	306.9	384.9
8668	172.9	192.0	220.2	224.3	264.0	248.9	257.1	227.7	269.6	282.1	246.2	245.3	250.2	240.2
8669	161.1	177.1	189.1	204.7	217.6	221.8	235.5	239.1	237.0	242.1	246.2	245.3	250.2	240.2
8670	170.2	186.0	190.9	237.3	245.0	269.1	280.8	299.6	302.4	319.6	313.4	331.7	336.8	333.1
8671	172.2	198.9	212.9	240.4	254.0	251.8	274.4	261.1	285.3	284.5	297.8	305.0	301.2	303.1
8672	178.0	212.4	236.2	253.1	270.2	288.5	282.1	291.8	300.3	303.5	311.8	313.9	320.2	324.8
8673	175.0	191.3	210.3	231.5	232.2	244.7	216.9	257.4	259.8	271.0	258.5	273.5	261.2	272.6
8674	179.7	196.2	218.8	226.1	250.9	259.2	265.6	280.1	270.5	283.0	272.7	288.5	282.7	297.5
8675	180.5	198.7	211.9	233.1	252.0	268.9	274.4	283.3	284.5	289.4	292.9	289.7	287.5	290.3
8676	175.8	191.3	214.5	228.8	237.1	258.9	263.7	275.7	281.9	277.9	286.1	283.2	295.6	294.2
8677	180.9	203.6	223.9	235.8	249.7	267.7	277.8	276.6	290.2	294.9	293.0	293.0	295.6	294.2
8678	165.3	179.7	194.2	205.6	215.6	226.0	225.3	235.0	240.2	237.8	246.5	241.6	247.6	248.2
8679	180.3	201.8	225.4	254.3	268.2	277.3	273.5	275.3	282.6	295.7	303.5	282.2	239.4	306.7
8680	172.5	198.6	225.1	247.5	273.9	282.3	303.3	303.9	321.1	325.0	325.5	340.2	346.3	342.4
8681	179.7	206.9	228.9	252.6	276.3	287.0	303.2	315.9	338.0	334.1	335.3	344.7	345.6	356.3

\* = DEAD ANIMAL

APPENDIX 3 - CONTINUED  
INDIVIDUAL BODY WEIGHTS (G)  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	GROUP	WEEKS													
		0	1	2	3	4	5	6	7	8	9	10	11	12	13
3 FEMALES - 200.0000 MG/KG															
8702	177.6	201.8	202.0	254.5	278.3	284.4	309.0	313.3	331.2	341.8	344.7	355.3	356.9	362.7	
8703	187.6	209.3	234.1	256.7	273.3	264.5	278.6	298.1	305.1	325.9	326.3	335.0	342.9	341.1	
8704	182.4	203.5	233.8	259.8	273.3	275.6	290.8	307.2	309.3	325.2	328.7	334.5	340.8	342.1	
8705	176.0	*	*	*	*	*	*	*	*	*	*	*	*	*	
8706	168.3	179.9	211.8	223.8	246.8	248.0	268.5	273.2	336.7	332.9	335.3	345.5	342.4	337.6	
8707	180.4	212.9	231.1	245.4	265.8	277.0	286.1	317.1	336.7	332.9	335.3	345.5	342.4	337.6	
8708	178.6	196.6	224.1	233.8	243.5	262.8	282.0	288.1	300.6	312.3	312.9	317.6	319.8	318.3	
8709	170.7	194.3	218.2	251.4	236.0	246.4	242.1	260.1	260.7	272.4	267.7	278.8	274.9	277.3	
8710	144.9	178.6	210.9	226.8	246.2	258.5	269.9	282.6	290.3	298.5	300.4	316.2	314.2	320.1	
8711	182.5	203.2	219.8	238.0	249.5	246.8	267.2	273.2	266.3	292.7	306.0	303.6	296.8	297.1	
8712	177.6	201.2	221.5	250.1	262.4	262.4	280.9	290.7	288.5	295.9	302.5	303.4	312.8	315.0	
8713	187.6	163.9	227.0	237.6	258.8	276.5	290.0	298.1	310.1	318.5	327.0	321.2	330.7	334.0	
8714	185.9	211.3	242.2	262.7	270.7	276.8	294.0	305.4	314.0	316.4	326.5	338.5	336.4	340.8	
8715	179.6	214.5	236.9	262.4	268.1	291.9	305.7	306.6	312.1	325.9	327.3	329.6	333.7	333.0	
8716	174.8	184.1	217.7	225.3	240.6	245.1	242.4	267.9	268.0	281.5	286.3	285.5	293.2	308.1	
8717	180.7	203.1	225.0	249.2	263.6	271.6	286.9	304.1	311.6	313.3	322.9	334.8	334.4	333.7	
8718	182.4	201.3	218.9	234.6	261.6	279.3	298.2	300.8	314.2	320.5	329.2	330.9	348.3	354.0	
8719	167.7	186.1	207.1	228.7	240.0	249.6	257.6	273.6	275.4	275.1	277.0	285.5	289.1	290.3	
8720	159.8	177.1	206.3	219.0	234.6	245.5	252.0	266.8	271.7	275.9	272.8	286.0	287.1	292.8	
8721	170.0	204.1	224.4	251.5	268.4	285.6	292.4	295.8	309.1	312.2	317.1	327.5	327.6	340.1	
4 FEMALES - 800.0000 MG/KG															
8742	183.6	217.4	250.2	273.4	291.5	293.7	294.3	306.1	314.1	320.8	316.0	321.0	325.7	319.7	
8743	172.6	199.0	207.1	223.1	213.8	245.1	255.4	*	*	*	*	*	*	*	
8744	177.2	197.1	215.2	234.6	244.3	251.0	263.4	275.2	279.0	291.1	297.8	302.7	305.7	306.2	
8745	192.1	220.8	240.8	270.7	296.2	299.6	*	*	*	*	*	*	*	*	
8746	160.5	183.8	189.5	209.6	216.3	233.6	247.9	248.2	260.3	258.1	263.2	268.5	277.7	278.5	
8747	171.6	194.0	214.6	236.5	243.9	258.0	271.2	295.8	292.5	306.6	318.3	319.5	330.2	331.6	
8748	174.1	195.5	207.1	228.0	235.6	246.2	263.1	262.8	272.4	272.0	274.0	279.7	276.1	281.2	
8749	176.8	205.9	221.1	226.7	252.1	260.3	274.3	280.1	289.8	301.4	293.7	310.4	315.1	318.7	
8750	181.4	200.7	224.0	234.7	247.4	244.8	271.5	280.6	274.1	286.3	295.3	291.6	286.8	290.7	
8751	177.4	196.4	225.4	238.9	253.9	265.4	271.5	285.4	286.2	295.2	290.4	301.8	293.9	291.3	
8752	175.2	185.6	208.9	232.6	241.7	248.7	262.1	266.1	272.3	282.7	280.2	288.2	296.4	274.2	
8753	177.2	195.5	214.8	222.5	237.5	245.3	258.9	257.4	265.8	250.6	280.0	285.2	281.8	286.5	
8754	172.2	*	*	*	*	*	*	*	*	*	*	*	*	*	
8755	164.1	173.3	207.5	224.9	250.4	263.7	261.2	275.0	280.3	286.8	293.1	294.2	302.2	299.7	
8756	177.3	199.7	225.6	246.2	262.5	261.0	269.1	280.8	300.3	296.9	300.8	304.9	319.1	293.6	
8757	170.7	186.9	215.2	225.3	240.9	246.9	255.8	268.9	271.5	273.7	276.2	280.6	285.8	290.6	
8758	180.7	184.8	212.1	226.3	236.3	251.5	257.2	267.5	279.5	277.6	305.3	296.0	299.8	309.9	
8759	177.3	203.2	227.6	228.8	258.1	271.8	277.8	301.0	298.7	313.3	319.2	322.5	326.5	335.1	
8760	175.0	180.4	205.9	221.8	239.9	251.7	248.7	256.7	254.3	274.2	278.1	277.5	282.7	278.1	
8761	170.5	183.4	206.6	220.7	226.6	248.1	261.1	261.9	267.9	276.5	279.0	288.0	284.2	303.1	

\* = DEAD ANIMAL



**HAZLETON**

LABORATORIES AMERICA, INC.  
1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

HLA 2399-110

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#### APPENDIX 4

#### Individual Food Consumption

APPENDIX 4  
INDIVIDUAL FOOD CONSUMPTION (G/WK)  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13
GROUP	1 MALES	-	CONTROL				WEEKS						
8602	174.2	178.0	168.5	169.5	**	186.2	172.4	144.8	161.0	165.0	151.7	161.2	131.8
8603	168.5	162.5	154.3	160.8	**	168.8	187.0	180.5	172.4	163.2	158.8	170.5	**
8604	174.4	177.3	166.5	171.7	**	196.5	198.7	179.1	176.2	176.6	167.0	183.1	137.5
8605	158.4	187.7	176.6	162.5	**	182.4	172.2	182.7	181.1	168.6	173.8	175.5	87.3
8606	182.7	166.4	156.1	149.1	**	161.4	152.6	147.3	152.4	152.0	138.1	132.9	130.6
8607	174.5	166.2	171.3	159.0	**	159.4	154.6	148.5	152.0	145.7	151.1	154.1	128.9
8608	179.7	175.2	171.1	163.3	**	171.5	120.0	176.6	161.6	157.9	156.8	157.6	126.1
8609	186.8	180.0	166.6	174.0	**	174.4	168.6	164.5	174.7	176.0	168.5	180.2	133.8
8610	172.4	170.0	155.4	154.1	**	153.9	139.9	148.1	153.0	155.7	153.7	157.6	130.2
8611	190.5	175.4	177.8	184.8	**	196.9	200.9	210.8	194.2	191.1	195.2	198.8	162.1
8612	194.5	182.7	180.1	179.7	**	174.6	166.4	162.7	168.1	161.3	163.6	176.5	165.6
8613	169.6	172.8	162.6	179.7	166.1	220.0	**	165.2	169.2	163.2	160.4	178.3	161.0
8614	185.7	184.6	166.3	172.4	166.9	176.0	180.2	171.9	162.6	158.8	155.2	173.5	160.0
8615	174.8	149.2	142.2	147.3	146.9	149.0	145.7	137.7	154.3	147.1	159.7	**	154.2
8616	192.9	186.8	180.8	184.3	176.9	179.1	173.2	183.9	173.9	171.7	170.8	172.4	160.8
8617	188.1	175.4	191.0	193.0	190.9	198.2	190.8	194.2	187.3	192.2	185.0	199.5	177.5
8618	186.9	170.3	160.9	162.8	160.4	169.5	155.7	157.9	156.5	161.4	163.8	171.2	156.5
8619	189.9	161.3	154.2	144.9	143.2	149.3	145.4	156.9	151.9	149.0	152.2	153.8	150.7
8620	184.5	183.9	168.2	188.9	186.1	190.8	188.7	188.9	190.8	190.6	196.8	182.0	184.5
8621	203.4	195.0	193.9	205.2	207.5	207.4	209.1	205.8	208.3	197.8	200.5	204.6	187.4
GROUP	2 MALES	-	100.0000 MG/KG										
8642	194.0	198.1	197.3	193.3	**	157.7	169.0	176.7	176.5	173.2	170.6	165.5	143.5
8643	168.8	164.8	156.3	153.5	**	164.2	167.0	154.9	146.8	156.4	156.8	146.9	142.0
8644	194.3	187.4	186.7	182.3	**	175.4	178.7	174.3	174.0	171.0	182.2	173.9	155.2
8645	186.8	181.0	179.7	189.5	**	171.1	157.3	163.7	156.9	150.6	165.6	169.5	147.4
8646	196.9	191.3	188.1	190.3	**	183.1	181.0	166.9	163.9	164.9	149.4	149.1	131.9
8647	206.6	205.0	199.7	**	**	**	194.7	177.4	184.8	187.7	184.2	187.8	169.6
8648	200.5	210.3	222.0	209.7	**	**	214.1	204.4	199.1	197.4	172.5	157.8	109.5
8649	197.1	197.7	182.1	182.2	**	187.6	189.7	202.3	186.3	182.7	178.9	184.6	175.7
8650	209.6	191.6	175.8	169.3	**	166.7	162.4	163.1	166.7	166.7	157.2	165.8	150.7
8651	187.9	187.8	187.8	185.0	**	188.7	190.7	184.0	178.0	179.0	183.4	177.1	158.5
8652	171.1	164.4	150.8	151.6	156.0	156.5	146.5	**	152.5	136.1	138.5	160.0	176.0
8653	188.1	193.3	177.0	174.9	176.5	180.5	180.8	196.9	184.0	184.9	191.8	184.7	176.8
8654	179.8	171.6	178.8	187.4	189.8	186.3	**	171.0	179.4	179.4	170.9	161.9	**
8655	214.3	**	**	166.8	151.7	150.4	150.2	140.8	138.9	145.4	138.8	140.8	144.6
8656	204.4	196.1	191.6	205.0	213.6	202.5	197.4	178.5	186.6	190.7	177.6	196.0	190.0
8657	179.4	171.1	168.6	173.2	179.8	173.7	168.1	166.2	158.3	170.7	171.1	161.8	*
8658	203.7	204.9	186.7	183.2	185.1	183.5	178.9	169.4	166.6	174.2	168.1	161.3	161.3
8659	202.8	191.9	199.4	183.3	177.3	183.5	184.2	188.2	174.0	186.1	168.2	169.7	157.8
8660	185.3	133.9	172.3	175.6	170.5	170.1	178.2	163.5	156.4	170.8	**	167.4	151.3
8661	182.8	176.4	167.9	167.1	161.4	163.5	162.6	159.7	159.4	220.0	166.7	165.2	160.0

\* = DEAD ANIMAL

\*\* = INVALID VALUE - FOOD WASTED OR SPILLED



APPENDIX 4 - CONTINUED  
INDIVIDUAL FOOD CONSUMPTION (G/MK)  
SUBCHRONIC TOXICITY STUDY IN RATS

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ANIMAL NUMBER	GROUP	WEEKS												
		1	2	3	4	5	6	7	8	9	10	11	12	13
	3 MALES	200.0000 MG/KG												
8682	207.3	185.9	187.1	176.2	**	**	167.7	164.8	166.7	177.0	174.0	170.4	168.4	149.8
8683	184.1	182.7	177.1	47.4	**	**	174.2	162.0	163.1	155.4	157.1	157.7	154.1	127.6
8684	190.6	186.2	180.0	183.3	**	**	189.5	**	**	196.8	182.7	183.0	194.8	**
8685	183.0	208.1	195.7	201.4	**	**	187.3	191.8	202.8	187.9	203.3	191.3	200.9	166.7
8686	198.7	185.5	195.9	191.8	**	**	181.5	186.3	190.5	155.1	154.7	177.6	206.1	149.1
8687	186.6	177.0	184.3	175.6	**	**	167.7	155.7	173.3	165.4	167.0	166.2	167.6	161.8
8688	172.3	173.3	186.0	166.1	**	**	157.8	152.6	148.3	157.9	168.0	131.7	152.0	147.9
8689	215.1	204.6	199.8	197.4	**	**	190.2	196.5	206.0	192.7	200.0	195.2	190.3	167.9
8690	177.7	158.9	156.8	161.5	**	**	150.2	145.0	150.3	146.0	149.8	150.9	158.6	131.9
8691	214.6	216.9	211.8	211.0	**	**	**	217.5	**	202.1	**	211.7	**	177.6
8692	199.2	182.7	183.8	161.4	156.7	163.2	157.8	**	**	105.5	145.7	167.5	170.8	153.0
8693	200.6	195.0	201.1	193.0	**	**	**	**	**	**	**	**	**	**
8694	172.9	165.3	171.4	181.7	**	**	**	**	**	**	**	**	**	**
8695	190.0	**	192.9	186.6	188.6	167.5	176.8	167.5	170.1	159.9	166.9	161.1	171.8	161.2
8696	189.2	196.8	194.6	197.5	200.0	192.5	192.5	196.6	198.8	180.8	192.6	**	**	**
8697	189.4	171.0	160.2	158.4	153.8	165.2	155.3	155.3	165.3	150.8	166.9	153.9	149.5	140.6
8698	187.7	180.6	182.7	174.4	173.0	168.7	168.7	168.5	159.6	157.5	163.7	157.1	160.5	154.8
8699	195.8	**	174.0	168.2	170.2	162.7	165.2	165.2	164.0	159.3	165.3	168.9	161.2	154.1
8700	187.4	210.2	**	183.4	174.6	178.3	178.3	174.8	175.8	174.6	173.6	171.9	172.0	161.8
8701	169.6	180.1	187.1	190.3	194.3	182.1	189.9	189.9	193.0	186.0	190.0	188.1	190.7	189.5
	4 MALES	800.0000 MG/KG												
8722	184.7	185.2	166.7	197.3	**	**	183.6	206.8	*	*	*	*	*	*
8723	175.7	187.8	184.4	182.5	**	**	190.3	184.8	179.1	173.0	183.8	185.1	180.4	142.7
8724	209.5	189.8	179.4	177.5	**	**	179.4	171.5	**	170.7	116.6	187.6	203.6	**
8725	179.4	209.9	**	187.1	*	*	**	*	*	*	*	*	*	*
8726	186.8	185.8	182.5	181.5	**	**	192.8	181.8	175.3	171.6	177.9	175.0	170.4	145.0
8727	172.6	158.7	150.0	139.6	**	**	161.1	145.0	148.2	146.4	154.3	150.7	148.4	134.0
8728	186.2	166.3	182.1	161.9	**	**	165.6	165.7	153.1	151.4	166.2	**	160.0	130.8
8729	192.8	190.0	183.7	172.3	*	*	**	*	*	*	*	*	*	*
8730	205.6	192.4	190.6	210.7	**	**	196.1	187.9	184.7	161.3	181.0	174.5	177.9	183.0
8731	**	210.2	201.4	195.9	**	**	206.9	198.5	192.5	189.0	183.2	193.4	193.0	172.7
8732	168.4	169.4	163.8	176.7	163.1	175.8	181.3	181.3	178.7	142.3	149.5	179.6	184.0	135.9
8733	203.0	195.0	190.3	197.3	193.5	191.1	196.3	196.3	**	181.2	181.3	**	179.8	152.1
8734	160.5	196.2	203.8	176.2	180.7	197.9	170.1	172.4	172.4	164.9	159.7	167.3	168.7	148.3
8735	185.3	193.5	197.9	198.7	200.4	209.6	**	**	**	186.4	201.6	**	183.1	177.8
8736	120.4	212.3	219.1	218.3	210.3	207.6	205.1	205.1	197.1	197.9	146.3	195.7	204.0	200.4
8737	178.0	185.7	177.6	176.4	182.3	177.4	174.5	174.5	168.8	171.9	169.4	171.9	141.6	208.4
8738	172.5	166.8	164.3	105.2	136.5	149.8	**	**	155.5	141.1	148.7	138.4	151.2	129.8
8739	208.7	209.3	180.5	184.3	187.2	191.8	204.1	204.1	195.5	186.7	*	*	*	*
8740	184.9	177.1	180.0	174.3	167.8	169.7	171.3	171.3	169.1	163.5	161.3	163.6	150.1	121.6
8741	196.1	199.3	198.2	209.6	215.0	200.7	207.3	207.3	194.8	192.7	196.4	196.7	179.2	184.4

\* = DEAD ANIMAL  
\*\* = INVALID VALUE - FOOD WASTED OR SPILLED

APPENDIX 4 - CONTINUED  
INDIVIDUAL FOOD CONSUMPTION (G/WK)  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	WEEKS												
	1	2	3	4	5	6	7	8	9	10	11	12	13
GROUP 1 FEMALES - CONTROL													
8622	124.9	115.5	113.1	101.3	**	100.5	99.6	97.3	91.7	101.0	99.7	103.0	93.4
8623	163.4	155.9	146.0	146.5	**	145.4	143.2	137.9	121.8	131.6	125.3	119.4	104.0
8624	169.3	178.3	172.0	167.2	**	157.1	162.9	158.2	152.3	162.3	116.2	177.4	158.5
8625	126.5	121.3	119.3	115.1	**	125.0	133.9	116.9	121.3	112.9	124.8	118.3	98.4
8626	135.3	144.1	130.4	133.0	**	132.8	145.8	143.4	135.6	130.7	126.3	128.2	101.3
8627	**	184.8	123.5	106.3	**	104.6	110.3	98.6	110.0	95.2	95.1	98.3	93.6
8628	161.4	146.7	166.4	151.2	**	155.5	**	153.5	144.4	152.2	138.1	133.0	109.9
8629	169.9	**	**	**	**	151.2	160.7	165.8	155.8	**	199.3	149.1	126.5
8630	131.7	129.5	125.7	122.5	**	121.9	124.3	126.3	115.7	119.7	116.2	113.8	106.1
8631	161.9	171.6	193.7	**	**	153.7	136.6	158.8	129.3	126.0	137.0	141.4	112.9
8632	138.8	129.1	130.6	143.9	110.1	126.9	120.5	125.7	119.4	125.5	108.7	121.6	112.1
8633	**	130.5	130.9	117.7	123.9	128.2	122.2	124.9	123.1	132.5	119.2	120.5	119.6
8634	124.1	127.7	119.5	130.6	128.4	135.2	133.2	137.4	116.5	130.1	140.1	129.3	122.4
8635	153.1	150.6	142.6	169.0	**	144.5	**	137.3	149.3	118.8	131.9	131.3	121.1
8636	138.3	**	142.7	138.4	137.1	145.0	135.7	133.0	133.8	132.1	126.3	127.5	125.6
8637	119.7	117.1	112.1	107.8	117.0	112.2	106.6	115.4	111.2	108.4	110.5	123.0	128.4
8638	137.6	130.7	191.3	**	169.8	160.8	129.0	134.0	122.9	122.9	125.3	117.5	120.9
8639	145.0	139.7	132.3	127.4	133.5	130.8	**	133.8	137.8	162.4	**	127.7	121.6
8640	137.8	144.8	140.6	156.1	143.1	143.7	128.0	137.6	131.9	137.2	**	127.0	125.5
8641	132.8	137.6	129.4	134.8	141.3	**	127.2	129.3	132.3	125.3	120.1	127.7	120.0
GROUP 2 FEMALES - 100.000 MG/KG													
8662	126.3	123.6	117.7	111.3	**	113.9	121.0	112.5	108.9	107.1	105.9	105.4	94.6
8663	147.3	**	156.0	158.5	**	132.7	151.4	**	*	*	*	*	*
8664	152.0	150.0	148.0	140.0	**	134.0	150.6	139.1	135.8	147.6	131.2	129.0	121.6
8665	146.9	143.9	161.9	150.8	**	132.7	144.9	**	120.9	124.7	119.3	127.6	109.3
8666	**	159.7	119.0	145.8	**	131.9	155.3	126.4	116.2	115.5	126.6	108.6	115.6
8667	**	**	**	**	**	**	**	184.8	118.7	119.1	151.3	132.3	**
8668	138.1	148.8	168.2	131.2	**	109.3	213.5	163.1	140.9	133.2	122.9	132.5	114.8
8669	148.1	**	202.2	**	**	**	**	**	**	165.6	**	**	**
8670	**	**	155.3	192.6	**	**	174.3	**	**	167.9	164.9	**	**
8671	146.9	**	174.1	145.1	**	135.2	**	139.6	132.4	139.5	127.6	118.1	166.5
8672	166.1	159.7	143.9	144.2	134.2	127.3	135.0	124.3	126.7	131.6	125.7	126.3	112.0
8673	144.1	152.0	156.2	160.8	149.1	127.1	149.3	180.3	**	**	**	**	**
8674	122.1	120.7	117.2	125.4	113.1	123.4	126.2	114.5	124.3	107.3	122.2	112.4	119.8
8675	166.4	**	184.5	150.9	**	124.4	**	**	155.1	195.3	**	114.9	121.1
8676	138.9	136.0	136.1	133.2	132.6	130.1	134.8	128.2	123.5	126.7	117.4	127.2	112.2
8677	150.2	135.9	139.0	131.5	124.7	115.0	127.1	132.4	104.0	106.3	*	*	*
8678	124.8	118.8	110.4	108.2	102.8	102.7	105.4	**	101.2	102.1	99.3	104.4	97.8
8679	176.9	176.4	154.9	156.9	152.0	128.5	90.5	117.2	101.1	**	98.2	108.2	116.7
8680	178.2	**	196.8	163.5	147.4	136.8	144.5	**	140.8	142.9	160.6	143.7	132.3
8681	**	150.0	157.0	153.7	135.1	136.2	140.2	135.6	128.3	121.9	121.9	124.4	105.2

\* = DEAD ANIMAL

\*\* = INVALID VALUE - FOOD WASTED OR SPILLED

APPENDIX 4 - CONTINUED  
INDIVIDUAL FOOD CONSUMPTION (G/WK)  
SUBCHRONIC TOXICITY STUDY IN RATS

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ANIMAL NUMBER	GROUP	WEEKS												
		1	2	3	4	5	6	7	8	9	10	11	12	13
3 FEMALES - 200.0000 MG/KG														
8702		155.2	**	166.6	158.1	**	158.4	152.1	178.5	148.4	138.2	154.7	142.1	119.5
8703		151.0	136.5	142.2	139.9	**	107.5	129.5	143.2	138.5	138.0	134.9	128.3	114.2
8704		149.9	156.6	151.0	136.4	**	146.2	146.0	154.7	142.5	177.7	139.4	142.9	**
8705		*	*	*	*	*	*	*	*	*	*	*	*	*
8706		132.4	134.3	124.4	126.8	**	130.8	114.2	*	*	*	*	*	*
8707		139.0	144.3	124.9	127.5	**	130.7	158.0	163.2	129.6	116.9	125.2	118.6	105.5
8708		144.5	146.0	**	**	**	136.0	146.0	135.2	127.1	128.8	123.3	128.4	115.8
8709		127.8	133.0	159.6	**	**	107.2	**	**	156.7	106.0	**	101.4	103.5
8710		148.8	140.9	133.3	142.2	**	134.5	147.7	131.8	126.5	123.3	132.3	128.8	117.8
8711		157.1	146.5	**	142.9	**	**	145.4	132.8	141.4	139.9	135.3	115.3	108.3
8712		155.1	157.2	170.1	145.5	**	144.2	146.8	127.8	130.3	137.9	128.2	132.2	115.8
8713		**	152.7	**	158.1	139.0	139.7	138.0	139.9	129.6	130.1	125.2	128.8	111.0
8714		154.6	157.1	175.1	166.5	**	136.1	**	**	128.2	127.9	120.1	124.1	145.0
8715		**	147.5	167.1	146.8	143.1	137.9	130.0	127.6	130.7	131.0	133.0	135.4	125.2
8716		153.6	150.8	131.4	131.9	129.0	131.8	134.4	133.8	123.8	121.7	128.9	116.4	137.6
8717		148.0	144.6	147.3	135.6	133.7	137.0	143.6	133.8	133.3	132.4	129.9	173.7	126.1
8718		**	165.2	218.0	**	181.5	189.5	210.9	**	**	180.6	147.6	167.4	**
8719		161.9	**	203.7	**	**	136.7	141.7	**	**	123.1	124.9	114.8	124.9
8720		130.6	137.9	132.0	134.1	121.3	127.6	**	**	119.1	124.6	134.3	121.3	132.8
8721		184.5	150.7	154.6	179.6	152.9	157.0	141.9	147.6	132.9	138.5	134.2	130.4	140.3
4 FEMALES - 800.0000 MG/KG														
8742		188.3	157.9	153.1	170.7	**	168.2	153.8	156.6	**	170.3	145.8	142.8	**
8743		190.0	159.1	165.7	174.5	**	149.1	*	*	*	*	*	*	*
8744		156.5	157.3	143.5	**	**	**	146.8	145.1	136.7	143.0	**	139.3	**
8745		171.5	163.5	168.4	180.8	**	*	*	*	*	*	*	*	*
8746		133.3	119.6	174.5	155.3	**	129.8	129.1	138.4	116.4	146.4	169.3	149.9	119.2
8747		132.6	145.0	152.3	154.3	**	136.3	156.9	142.3	133.8	144.2	131.2	145.6	133.1
8748		122.0	102.8	95.4	105.1	**	116.9	111.7	109.5	102.7	96.0	106.3	87.8	**
8749		158.5	140.5	183.0	147.9	**	137.9	144.9	137.5	128.1	128.1	143.8	140.2	101.3
8750		158.6	**	**	**	**	**	**	**	**	202.2	**	**	220.0
8751		143.5	149.1	141.2	138.4	**	127.9	161.9	127.7	129.8	209.9	139.9	118.6	**
8752		134.2	128.1	121.1	**	125.0	125.0	128.4	**	122.5	121.2	118.5	125.2	88.3
8753		153.0	151.0	141.8	165.5	**	**	**	**	**	157.7	144.4	144.0	131.8
8754		*	*	*	*	*	*	*	*	*	*	*	*	*
8755		130.1	141.2	163.2	170.3	179.2	154.9	152.9	147.2	147.8	150.2	153.9	144.4	124.5
8756		**	161.7	181.2	168.2	147.8	137.1	194.0	154.0	**	143.5	100.3	169.2	60.8
8757		160.4	177.4	206.4	**	**	158.0	197.1	**	**	178.0	200.8	**	167.4
8758		142.5	**	174.4	168.0	**	**	**	**	**	171.0	146.7	**	129.1
8759		139.0	143.9	131.3	143.3	145.2	138.1	178.1	148.4	141.1	138.4	141.0	150.7	141.0
8760		130.3	138.3	133.5	164.2	**	147.8	**	204.1	**	138.9	**	157.7	128.5
8761		132.6	129.4	122.8	131.8	197.0	133.8	128.8	124.7	129.3	126.4	141.8	122.1	131.0

\* - DEAD ANIMAL

\*\* - INVALID VALUE - FOOD WASTED OR SPILLED



**HAZLETON**

LABORATORIES AMERICA, INC.

1330 - S PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

HLA 2399-110

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## APPENDIX 5

### Individual Ophthalmoscopic Findings



APPENDIX 5  
INDIVIDUAL OPHTHALMOSCOPIC FINDINGS

<u>Animal Number</u>	<u>Group</u>	<u>Sex</u>	<u>Interval</u>	<u>Finding</u>
8673	2	F	Pretest	Left eye - persistent hyaloid artery remnant with vitreal bleed. <sup>a</sup>
8738	4	M	Pretest	Left eye - persistent hyaloid remnant with vitreal bleed. <sup>a</sup>
			Terminal	No visible lesions

<sup>a</sup>Judged by ophthalmologist to be a normal developmental change which resolves with age.



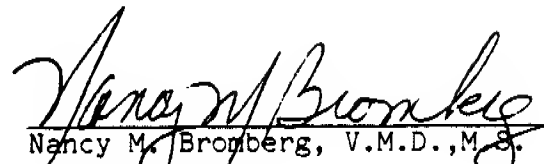
Nancy M. Bromberg, V.M.D., M.S.  
Diplomate, American College of Veterinary Ophthalmologists  
4105 Brandywine Street, Northwest  
Washington, D.C. 20016  
202/363-7303

August 11, 1986

Mr. Patrick Vanatta  
Hazleton Laboratories  
1330-B Piccard Dr.  
Rockville, MD 20850

Subject: Ophthalmoscopic examinations of rats, Project No. 2399-110  
July 14, 1986

All animals examined had no visible lesions.

  
Nancy M. Bromberg, V.M.D., M.S.  
Dip., A.C.V.O.



Nancy M. Bromberg, V.M.D., M.S.  
Diplomate, American College of Veterinary Ophthalmologists  
4105 Brandywine Street, Northwest  
Washington, D.C. 20016  
202/363-7303

April 29, 1986

M. Rodwin, study coordinator  
Hazleton Laboratories  
1330- B Piccard Drive  
Rockville, MD 20850


Subject: Ophthalmoscopic examination of 100 SD rats,  
Study 2399-110, April 11, 1986

All animals were found to have no visible lesions with the exception of:

Group II female #8673 - left eye had a persistent hyaloid artery remenant with vitreal bleed

Group IV male # 8738 - left eye had a persistent hyaloid remnant with vitreal bleed

These findings represent a normal developmental change which resolves with age.

  
Nancy M. Bromberg, V.M.D., M.S.



**HAZLETON**

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HLA 2399-110

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## APPENDIX 6

### Individual Clinical Hematology Values





**HAZLETON**

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1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

2399-110

KEY TO HEMATOLOGY

R = Repeat Sample

LEUKOCYTE DIFFERENTIALS

Blast Cells	BLAST
Metamyelocytes	META
Band Neutrophils	BAND
Segmented Neutrophils	SEG
Lymphocytes	LYMPH
Monocytes	MONO
Eosinophils	EOSIN
Basophils	BASO

CELL MORPHOLOGY

Echinocytes	ECHINO
Target Cells	TARGET
Poikilocytes	POIK
Acanthocytes	ACANTH
Polychromatophilic Cells	POLY
Nucleated RBC's <sup>a</sup>	NRRC
Howell-Jolly Bodies	HJBODY

Cell morphology findings are graded by the following method.

- = None Present
- T = Trace Numbers Present
- 1 = Slight Numbers Present
- 2 = Moderate Numbers Present
- 3 = Marked Numbers Present
- 4 = Severe Numbers Present

<sup>a</sup>Expressed as a percentage of 100 WBC's counted.

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MALES

RAT

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APPENDIX 6  
INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	RBC M1/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC M1/UL
GROUP: 5	DOSE LEVEL: BASELINE DOSAGE UNIT:					
08762	6.72	14.5	45.6	1127	5.6	.38
08763	6.28	13.9	40.4	1198	5.0	.31
08764	7.30	15.6	50.4	1132	6.6	.48
08765	6.96	14.3	45.2	1144	7.0	.49
08766	6.69	14.2	43.5	1231	4.6	.31
MEAN	6.79	14.5	45.0	1166	5.8	.39
S.D.	.375	.65	3.64	45.9	1.02	.088

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APPENDIX 6  
INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	WBC TH/UL	BLAST TH/UL (%)	MET TH/UL (%)	BAND TH/UL (%)	SEG TH/UL (%)	LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASO TH/UL (%)
GROUP: 5	DOSE LEVEL: BASELINE DOSAGE UNIT:								
08762	9.0	.0( 0)	.0( 0)	.0( 0)	1.4(16)	7.3(81)	.3( 3)	.0( 0)	.0( 0)
08763	10.8	.0( 0)	.0( 0)	.0( 0)	2.4(22)	8.2(76)	.2( 2)	.0( 0)	.0( 0)
08764	9.3	.0( 0)	.0( 0)	.0( 0)	.7( 8)	8.6(92)	.0( 0)	.0( 0)	.0( 0)
08765	6.4	.0( 0)	.0( 0)	.0( 0)	.9(14)	5.5(86)	.0( 0)	.0( 0)	.0( 0)
08766	12.1	.0( 0)	.0( 0)	.0( 0)	1.1( 9)	11.0(91)	.0( 0)	.0( 0)	.0( 0)
MEAN	9.5	.0	.0	.0	1.3	8.1	.1	.0	.0
S.D.	2.14	.00	.00	.00	.67	2.00	.14	.00	.00

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RAT

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APPENDIX 6  
INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	POLY	TARGET	ECHINO
	-----	-----	-----
GROUP: 5	DOSE LEVEL: BASELINE      DOSAGE UNIT:		
08762	2+	-	1+
08763	2+	-	2+
08764	2+	-	1+
08765	2+	-	T
08766	1+	-	2+

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RAT

MALES

APPENDIX 6

INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	RBC M/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC M/UL
GROUP: 1	DOSE LEVEL: 0	DOSAGE UNIT: MG/KG				
08602	7.68	14.7	47.1	1144	4.2	.32
08603	6.53	15.2	38.9	1050	4.8	.31
08604	8.32	15.3	48.6	1118	1.4	.12
08605	7.57	14.7	41.8	1068	2.0	.15
08606 R	7.46	14.9	41.9	1214	3.5	.26
08607 R	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED
08608	7.45	15.5	44.3	1112	1.6	.12
08609	7.99	16.9	48.1	1411	2.2	.18
08610	8.85	17.4	48.4	1146	2.2	.19
08611	7.73	14.8	43.7	730	.6	.05
MEAN	7.73	15.5	44.8	1110	2.5	.19
S.D.	.641	.99	3.49	178.1	1.38	.092
GROUP: 2	DOSE LEVEL: 100	DOSAGE UNIT: MG/KG				
08642	7.84	15.4	47.2	1217	2.4	.19
08643	8.74	16.5	50.3	1243	2.1	.18
08644	8.14	15.6	47.5	1253	1.3	.11
08645	6.67	13.7	37.7	702	1.4	.09
08646	8.52	17.4	48.4	1098	1.5	.13
08647	6.59	14.5	39.8	1172	2.8	.18
08648 R	5.99	14.2	36.9	1546	10.3	.62
08649	8.32	16.6	48.5	1113	1.8	.15
08650	8.04	16.3	47.5	1008	1.8	.14
08651	7.62	15.6	45.9	940	2.1	.16
MEAN	7.65	15.6	45.0	1129	2.7	.19
S.D.	.923	1.17	4.90	222.6	2.69	.153

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MALES

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APPENDIX 6

INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	RBC M1/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC M1/UL
------------------	--------------	-------------	----------	-------------------	----------------	------------------

GROUP: 3 DOSE LEVEL: 200 DOSAGE UNIT: MG/KG

08682	8.19	15.9	48.7	1082	.6	.05
08683	9.03	16.9	53.3	944	.2	.02
08684	6.67	12.8	39.9	948	4.2	.28
08685	7.78	15.2	45.1	1188	1.3	.10
08686	7.67	15.9	46.1	1138	1.5	.12
08687	8.00	16.3	48.0	1297	1.1	.09
08688	7.49	15.1	43.4	1245	2.1	.16
08689	7.68	15.3	44.8	1350	2.5	.19
08690	9.17	17.7	52.1	1157	1.4	.13
08691	8.08	16.6	48.0	1178	4.0	.32
MEAN	7.98	15.8	46.9	1153	1.9	.15
S.D.	.727	1.33	3.99	133.7	1.34	.095

GROUP: 4 DOSE LEVEL: 800 DOSAGE UNIT: MG/KG

08722	8.69	16.7	50.7	1023	1.0	.09
08723	7.97	16.8	47.5	1116	2.0	.16
08724	7.95	15.5	47.5	748	1.4	.11
08725	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED
08726 R	6.08	14.3	35.8	1279	7.0	.43
08727 R	7.47	14.9	41.9	1576	6.5	.49
08728	7.81	17.1	43.4	1349	1.1	.09
08729	8.15	15.6	46.4	1229	1.8	.15
08730	6.72	15.8	40.6	1252	4.5	.30
08731	8.78	16.3	49.3	824	1.9	.17
MEAN	7.74	15.9	44.8	1155	3.0	.22
S.D.	.875	.93	4.76	259.6	2.35	.150



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APPENDIX 6  
INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	WBC TH/UL	BLAST TH/UL (%)	MET TH/UL (%)	BAND TH/UL (%)	SEG TH/UL (%)	LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASED TH/UL (%)
GROUP: 3	DOSE LEVEL: 200								
	DOSAGE UNIT: MG/KG								
08682	11.8	.0(0)	.0(0)	.0(0)	1.8(15)	9.4(88)	.2(2)	.4(3)	.0(0)
08683	16.0	.0(0)	.0(0)	.0(0)	1.3(8)	14.4(90)	.0(0)	.3(2)	.0(0)
08684	9.3	.0(0)	.0(0)	.0(0)	2.2(24)	6.8(73)	.2(2)	.1(1)	.0(0)
08685	16.0	.0(0)	.0(0)	.0(0)	1.6(10)	14.4(90)	.0(0)	.0(0)	.0(0)
08686	11.7	.0(0)	.0(0)	.0(0)	2.5(21)	9.1(78)	.1(1)	.0(0)	.0(0)
08687	18.2	.0(0)	.0(0)	.0(0)	1.3(7)	16.4(90)	.4(2)	.2(1)	.0(0)
08688	16.0	.0(0)	.0(0)	.0(0)	1.9(12)	13.8(86)	.2(1)	.2(1)	.0(0)
08689	13.4	.0(0)	.0(0)	.0(0)	.8(6)	12.5(93)	.0(0)	.1(1)	.0(0)
08690	14.8	.0(0)	.0(0)	.0(0)	2.5(17)	12.0(81)	.1(1)	.1(1)	.0(0)
08691	15.9	.0(0)	.0(0)	.0(0)	1.6(10)	14.3(90)	.0(0)	.0(0)	.0(0)
MEAN	14.3	.0	.0	.0	1.7	12.3	.1	.1	.0
S.D.	2.70	.00	.00	.00	.55	3.00	.13	.13	.00
GROUP: 4	DOSE LEVEL: 800								
	DOSAGE UNIT: MG/KG								
08722	21.1	.0(0)	.0(0)	.0(0)	3.2(15)	17.5(83)	.4(2)	.0(0)	.0(0)
08723	15.5	.0(0)	.0(0)	.0(0)	.8(5)	14.7(95)	.0(0)	.0(0)	.0(0)
08724	7.9	.0(0)	.0(0)	.0(0)	1.6(20)	6.2(79)	.1(1)	.0(0)	.0(0)
08725	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED
08726 R	23.3	.0(0)	.0(0)	.0(0)	5.4(23)	17.2(74)	.7(3)	.0(0)	.0(0)
08727 R	17.0	.0(0)	.0(0)	.0(0)	3.9(23)	12.9(76)	.0(0)	.2(1)	.0(0)
08728	13.3	.0(0)	.0(0)	.0(0)	3.1(23)	10.2(72)	.0(0)	.0(0)	.0(0)
08729	17.4	.0(0)	.0(0)	.0(0)	3.3(19)	13.6(78)	.0(0)	.5(3)	.0(0)
08730	20.3	.0(0)	.0(0)	.0(0)	2.8(14)	17.1(84)	.0(0)	.4(2)	.0(0)
08731	16.4	.0(0)	.0(0)	.0(0)	1.6(10)	14.4(88)	.2(1)	.2(1)	.0(0)
MEAN	16.9	.0	.0	.0	2.9	13.8	.2	.1	.0
S.D.	4.56	.00	.00	.00	1.38	3.69	.25	.19	.00



S2399110

WEEK: 005

MALES

RAT

ECCHIN

ACANTH

POLK

NRBC

PAGE: 1

APPENDIX 6  
INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	POLY	TARGET	ECCHIN	ACANTH	POLK	H2BODY	NRBC
GROUP: 1 DOSE LEVEL: 0 DOSAGE UNIT: MG/KG							
08602	T	-	3+	-	-	-	-
08603	T	-	3+	1+	-	-	-
08604	T	-	-	-	-	-	-
08605	T	-	3+	-	-	-	-
08606 R	1+	-	4+	T	-	-	-
08607 R	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED
08608	T	-	3+	T	-	-	-
08609	T	-	4+	-	-	-	-
08610	T	-	4+	-	-	-	-
08611	T	-	3+	-	-	-	-
GROUP: 2 DOSE LEVEL: 100 DOSAGE UNIT: MG/KG							
08642	1+	-	2+	-	-	-	-
08643	T	-	3+	-	T	-	-
08644	T	-	4+	-	FEW	-	-
08645	T	-	3+	-	-	-	-
08646	T	-	3+	-	-	-	-
08647	T	-	4+	-	-	-	-
08648 R	1+	-	3+	-	-	-	-
08649	T	-	2+	-	-	-	-
08650	T	-	3+	-	-	-	-
08651	T	-	3+	-	-	-	-
GROUP: 3 DOSE LEVEL: 200 DOSAGE UNIT: MG/KG							
08682	T	-	3+	-	-	-	-
08683	T	-	T	-	-	-	-
08684	T	-	T	-	-	-	-
08685	T	-	3+	-	-	-	-
08686	T	-	3+	-	-	-	-
08687	T	-	3+	-	-	-	-
08688	1+	T	3+	-	-	-	-
08689	T	-	1+	-	-	-	-
08690	T	-	3+	-	-	-	-
08691	T	-	2+	-	-	-	-

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MALES

RAT

S2399110

APPENDIX 6

INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	POLY	TARGET	ECHINO	ACANTH	POIK	HJBODY	NRBC
-----							
GROUP: 4	DOSE LEVEL: 800		DOSAGE UNIT: MG/KG				
08722	T	-	3+	-	-	-	-
08723	T	-	3+	-	-	FEW	-
08724	T	-	2+	-	-	-	-
08725	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED	CLOTTED
08726 R	1+	-	4+	-	-	-	-
08727 R	T	-	2+	-	-	-	-
08728	1+	-	4+	-	-	-	-
08729	T	-	3+	-	-	-	-
08730	T	-	3+	-	-	-	-
08731	1+	-	1+	-	-	-	-

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MALES

RAT

APPENDIX 6

INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	RBC ML/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC ML/UL
GROUP: 1	DOSE LEVEL: 0	DOSAGE UNIT: MG/KG				
006002	8.56	16.9	47.2	960	1.1	.09
006003	7.77	15.0	41.3	943	3.0	.23
006004	8.51	15.3	44.0	1007	.9	.08
006005	8.75	15.6	42.6	965	.6	.05
006006	8.29	14.9	42.1	1093	1.2	.10
006007	8.71	15.6	43.6	1401	2.2	.19
006008	8.23	15.3	43.8	926	.7	.06
006009	8.06	15.2	43.4	1236	1.3	.10
006010	9.16	16.6	46.2	1081	1.3	.12
006011	8.82	15.8	44.8	1232	1.2	.11
MEAN	8.49	15.6	43.9	946	1.3	.11
S.D.	.407	.66	1.80	346.3	.73	.056
GROUP: 2	DOSE LEVEL: 100	DOSAGE UNIT: MG/KG				
006042	8.33	15.7	42.4	984	.9	.07
006043	8.14	14.8	42.0	1182	1.2	.10
006044	8.32	14.8	42.5	1159	1.1	.09
006045	8.61	15.7	44.5	1196	.9	.08
006046	9.17	17.5	49.1	846	1.1	.10
006047	7.96	15.1	42.5	1112	.4	.03
006048	6.54	13.3	37.1	1467	.9	.06
006049	8.60	15.9	45.4	1004	2.4	.21
006050	8.54	15.9	45.2	920	2.1	.18
006051	7.92	14.8	42.8	1005	1.9	.15
MEAN	8.21	15.3	43.3	1088	1.3	.11
S.D.	.692	1.09	3.08	176.8	.63	.056

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INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	RBC MI/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC MI/UL
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GROUP: 3 DOSE LEVEL: 200 DOSAGE UNIT: MG/KG

08681	8.68	16.0	44.2	1044	1.2	.10
08683	8.35	15.5	44.8	1158	1.0	.08
08684	8.27	15.7	44.8	1095	1.3	.11
08685	8.30	14.6	41.9	1195	2.9	.24
08686	8.31	15.4	44.4	1140	1.0	.08
08687	8.60	15.8	45.3	1231	2.1	.18
08688	7.99	14.3	41.7	1136	2.1	.17
08689	8.72	15.6	44.0	1261	2.0	.17
08690	8.84	15.8	44.6	1093	.8	.07
08691	9.15	17.0	47.2	1056	.8	.07
MEAN	8.52	15.6	44.3	1141	1.5	.13
S.D.	.339	.74	1.59	72.1	.71	.059

GROUP: 4 DOSE LEVEL: 800 DOSAGE UNIT: MG/KG

08723	8.69	16.6	44.7	1063	3.0	.26
08724	8.43	15.9	45.0	832	1.2	.10
08726	8.28	15.5	42.9	1157	1.4	.12
08727	8.44	15.0	43.0	1131	1.6	.14
08728	8.68	16.3	44.7	951	.9	.08
08730	8.23	15.8	45.0	1191	1.6	.13
08731	8.68	15.2	43.0	1206	1.7	.15
08732	8.53	16.6	46.6	1135	1.6	.14
08733	8.48	15.3	43.3	1186	2.9	.25
08734	7.95	15.0	42.0	1060	2.3	.18
MEAN	8.44	15.7	44.0	1092	1.8	.15
S.D.	.235	.62	1.39	119.3	.70	.059

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APPENDIX 6  
INDIVIDUAL CLINICAL & MATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ORIGINAL NUMBER	UBC TH/UL	BLAST TH/UL (%)	META TH/UL (%)	BAND TH/UL (%)	SEG TH/UL (%)	LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASO TH/UL (%)
GROUP: 1	DOSE LEVEL: 0								
	DOSE UNIT: MG/KG								
08602	11.9	.0(0)	.0(0)	.0(0)	1.4(12)	10.5(88)	.0(0)	.0(0)	.0(0)
08603	15.2	.0(0)	.0(0)	.0(0)	4.1(27)	10.5(69)	.6(4)	.0(0)	.0(0)
08604	13.0	.0(0)	.0(0)	.0(0)	2.3(18)	10.0(77)	.0(0)	.6(5)	.0(0)
08605	14.5	.0(0)	.0(0)	.0(0)	5.2(36)	9.1(63)	.0(0)	.1(1)	.0(0)
08606	12.7	.0(0)	.0(0)	.0(0)	4.8(38)	7.9(62)	.0(0)	.0(0)	.0(0)
08607	15.1	.0(0)	.0(0)	.0(0)	4.1(27)	10.7(71)	.2(1)	.2(1)	.0(0)
08608	12.4	.0(0)	.0(0)	.0(0)	1.2(10)	10.4(84)	.2(2)	.5(4)	.0(0)
08609	12.3	.0(0)	.0(0)	.0(0)	2.1(17)	9.7(79)	.4(3)	.1(1)	.0(0)
08610	11.6	.0(0)	.0(0)	.0(0)	3.0(26)	8.6(74)	.0(0)	.0(0)	.0(0)
08611	14.0	.0(0)	.0(0)	.0(0)	2.7(19)	11.1(79)	.3(2)	.0(0)	.0(0)
MEAN	13.3	.0	.0	.0	3.1	9.8	.2	.1	.0
S.D.	1.33	.00	.00	.00	1.40	1.02	.21	.22	.00
GROUP: 2	DOSE LEVEL: 100								
	DOSE UNIT: MG/KG								
08642	16.0	.0(0)	.0(0)	.0(0)	2.9(18)	13.0(81)	.0(0)	.2(1)	.0(0)
08643	13.5	.0(0)	.0(0)	.0(0)	3.5(26)	9.5(70)	.4(3)	.1(1)	.0(0)
08644	12.1	.0(0)	.0(0)	.0(0)	.8(7)	11.0(91)	.0(0)	.2(2)	.0(0)
08645	13.6	.0(0)	.0(0)	.0(0)	2.6(19)	10.6(78)	.0(0)	.4(3)	.0(0)
08646	11.3	.0(0)	.0(0)	.0(0)	2.1(19)	9.2(81)	.0(0)	.0(0)	.0(0)
08647	16.6	.0(0)	.0(0)	.0(0)	1.5(9)	14.9(90)	.0(0)	.2(1)	.0(0)
08648	13.6	.0(0)	.0(0)	.0(0)	1.1(8)	12.1(89)	.1(1)	.3(2)	.0(0)
08649	21.8	.0(0)	.0(0)	.0(0)	3.2(15)	17.6(84)	.0(0)	.2(1)	.0(0)
08650	11.7	.0(0)	.0(0)	.0(0)	1.2(10)	10.5(90)	.0(0)	.0(0)	.0(0)
08651	13.7	.0(0)	.0(0)	.0(0)	2.6(19)	10.7(78)	.1(1)	.3(2)	.0(0)
MEAN	14.3	.0	.0	.0	2.1	11.9	.1	.2	.0
S.D.	2.90	.00	.00	.00	.95	2.62	.13	.13	.00

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ORIGINAL NUMBER	WBC TH/UL	BLAST TH/UL (%)	META TH/UL (%)	BAND TH/UL (%)	SEG TH/UL (%)	LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASO TH/UL (%)
GROUP: 3	DOSE LEVEL: 200								
	DOSAGE UNIT: MG/KG								
08682	11.4	.0( 0)	.0( 0)	.0( 0)	1.8(16)	9.5(83)	.0( 0)	.1( 1)	.0( 0)
08683	13.7	.0( 0)	.0( 0)	.0( 0)	.4( 3)	13.2(96)	.1( 1)	.0( 0)	.0( 0)
08684	17.2	.0( 0)	.0( 0)	.0( 0)	2.9(17)	13.9(81)	.2( 1)	.2( 1)	.0( 0)
08685	15.9	.0( 0)	.0( 0)	.0( 0)	2.5(16)	13.2(83)	.0( 0)	.2( 1)	.0( 0)
08686	10.0	.0( 0)	.0( 0)	.0( 0)	1.2(12)	8.8(88)	.0( 0)	.0( 0)	.0( 0)
08687	14.5	.0( 0)	.0( 0)	.0( 0)	1.3( 9)	12.8(88)	.3( 2)	.1( 1)	.0( 0)
08688	9.9	.0( 0)	.0( 0)	.0( 0)	1.3(13)	8.6(87)	.0( 0)	.0( 0)	.0( 0)
08689	14.4	.0( 0)	.0( 0)	.0( 0)	2.2(15)	12.0(83)	.1( 1)	.1( 1)	.0( 0)
08690	15.5	.0( 0)	.0( 0)	.0( 0)	1.9(12)	13.3(86)	.0( 0)	.3( 2)	.0( 0)
08691	11.4	.0( 0)	.0( 0)	.0( 0)	1.8(16)	9.5(83)	.0( 0)	.1( 1)	.0( 0)
MEAN	13.4	.0	.0	.0	1.7	11.5	.1	.1	.0
S.D.	2.56	.00	.00	.00	.72	2.12	.11	.10	.00
GROUP: 4	DOSE LEVEL: 800								
	DOSAGE UNIT: MG/KG								
08723	13.6	.0( 0)	.0( 0)	.0( 0)	1.5(11)	11.6(85)	.3( 2)	.3( 2)	.0( 0)
08724	11.9	.0( 0)	.0( 0)	.0( 0)	1.7(14)	10.1(85)	.0( 0)	.1( 1)	.0( 0)
08726	18.1	.0( 0)	.0( 0)	.0( 0)	1.6( 9)	16.1(89)	.4( 2)	.0( 0)	.0( 0)
08727	15.6	.0( 0)	.0( 0)	.0( 0)	3.7(24)	11.4(73)	.0( 0)	.5( 3)	.0( 0)
08728	9.8	.0( 0)	.0( 0)	.0( 0)	2.3(23)	7.5(77)	.0( 0)	.0( 0)	.0( 0)
08730	14.2	.0( 0)	.0( 0)	.0( 0)	2.3(16)	11.5(81)	.0( 0)	.4( 3)	.0( 0)
08731	12.3	.0( 0)	.0( 0)	.0( 0)	1.7(14)	10.6(86)	.0( 0)	.0( 0)	.0( 0)
08732	11.1	.0( 0)	.0( 0)	.0( 0)	1.7(15)	9.1(82)	.0( 0)	.3( 3)	.0( 0)
08733	13.7	.0( 0)	.0( 0)	.0( 0)	2.1(15)	11.5(84)	.0( 0)	.1( 1)	.0( 0)
08734	18.9	.0( 0)	.0( 0)	.0( 0)	2.0(18)	8.6(79)	.0( 0)	.3( 3)	.0( 0)
MEAN	13.1	.0	.0	.0	2.1	10.8	.1	.2	.0
S.D.	2.47	.00	.00	.00	.64	2.34	.15	.18	.00

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INITIAL NUMBER	PULY	ECHINO	ALANTH	POIK	DOSAGE UNIT: MG/KG
GROUP: 1	DISE LEVEL: 0				
08602	T	-	-	-	
08603	1+	2+	T	-	
08604	T	-	-	-	
08605	T	T	T	-	
08606	T	T	-	-	
08607	1+	-	-	-	
08608	T	T	-	T	
08609	1+	1	-	-	
08610	1+	1+	T	-	
08611	T	T	-	-	
GROUP: 2	DISE LEVEL: 100				
08642	T	-	-	-	
08643	1+	T	-	-	
08644	1+	T	-	-	
08645	1+	T	-	-	
08646	T	T	-	-	
08647	1+	T	-	T	
08648	T	1+	-	-	
08649	1+	T	-	-	
08650	T	T	-	-	
08651	T	T	-	-	
GROUP: 3	DISE LEVEL: 200				
08682	T	T	-	-	
08683	T	T	-	-	
08684	T	T	-	-	
08685	T	T	T	-	
08686	T	T	-	-	
08687	T	T	-	-	
08688	T	T	-	-	
08689	T	T	-	-	
08690	T	-	-	-	
08691	T	T	-	-	

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SUBCHRONIC TOXICITY STUDY IN RATS

POIK

ACANTH

ECHINO

PULY

ANIMAL  
NUMBER

DOSAGE UNIT: MG/KG

DOSE LEVEL: 800

GROUP: 4

08723	T	1+	-	-	-
08724	1+	T	-	-	-
08726	1+	1+	T	-	-
08727	T	T	-	-	-
08728	T	1+	-	-	-
08730	1+	T	T	-	-
08731	1+	T	-	-	-
08732	1+	1+	-	-	-
08733	T	T	-	-	-
08734	1+	1+	T	-	-



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INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
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ANIMAL NUMBER	RBC MI/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC MI/UL
GROUP: 5	DOSE LEVEL: BASELINE					
	DOSAGE UNIT:					
08767	6.49	14.4	42.2	1457	3.5	.23
08768	6.25	15.1	41.2	1308	4.6	.29
08769	5.69	14.7	37.0	1363	6.8	.39
08770	5.98	14.9	38.6	1488	4.3	.26
08771	5.96	14.4	36.7	1550	3.9	.23
MEAN	6.07	14.7	39.1	1433	4.6	.28
S.D.	.305	.31	2.47	97.2	1.29	.066

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INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	WBC TH/UL	BLAST TH/UL (%)	MET TH/UL (%)	BAND TH/UL (%)	SEG TH/UL (%)	LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASEO TH/UL (%)
GROUP: 5	DOSE LEVEL: BASELINE								
08767	12.6	.0( 0)	.0( 0)	.0( 0)	1.6(13)	10.8(86)	.1( 1)	.0( 0)	.0( 0)
08768	12.5	.0( 0)	.0( 0)	.0( 0)	1.0( 8)	11.5(92)	.0( 0)	.0( 0)	.0( 0)
08769	13.5	.0( 0)	.0( 0)	.0( 0)	1.9(14)	11.6(86)	.0( 0)	.0( 0)	.0( 0)
08770	11.5	.0( 0)	.0( 0)	.0( 0)	.7( 6)	10.7(93)	.0( 0)	.1( 1)	.0( 0)
08771	7.6	.0( 0)	.0( 0)	.0( 0)	.7( 9)	6.6(87)	.2( 3)	.1( 1)	.0( 0)
MEAN	11.5	.0	.0	.0	1.2	10.2	.1	.0	.0
S.D.	2.31	.00	.00	.00	.54	2.07	.09	.05	.00

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SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	POLY	TARGET	ECHINO	DOSE LEVEL: BASELINE	DOSAGE UNIT:
GROUP: 5					
08767	1+	T	1+		
08768	1+	-	3+		
08769	1+	-	3+		
08770	1+	-	2+		
08771	1+	-	3+		

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ANIMAL NUMBER	RBC MI/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC MI/UL
GROUP: 1	DOSE LEVEL: 0	DOSAGE UNIT: MG/KG				
08622 R	6.42	15.2	35.5	1463	3.8	.24
08623 R	4.93	12.5	29.0	1146	3.0	.15
08624	5.52	14.5	32.4	1376	1.9	.10
08625	7.18	15.2	40.4	1219	1.2	.09
08626	7.15	16.2	40.5	1162	.9	.06
08627	7.93	17.2	45.8	835	3.6	.29
08628	5.90	14.5	34.9	1441	3.6	.21
08629	6.48	16.1	38.5	1317	1.6	.10
08630	6.41	15.5	36.3	1264	1.3	.08
08631	7.55	17.0	42.0	919	2.6	.20
MEAN	6.55	15.4	37.5	1214	2.3	.15
S.D.	.932	1.38	4.92	208.4	1.11	.078
GROUP: 2	DOSE LEVEL: 100	DOSAGE UNIT: MG/KG				
08662 R	4.71	12.3	27.1	1368	NO TEST	NO TEST
08663 R	5.07	12.4	29.9	1274	5.5	.28
08664	6.85	16.3	39.6	471	1.9	.13
08665 R	5.47	13.7	32.7	873	5.0	.27
08666	5.88	15.1	33.3	1097	1.5	.09
08667	6.14	16.1	35.7	1154	1.3	.08
08668	7.20	17.3	41.5	486	1.4	.10
08669	7.68	17.3	42.8	998	1.2	.09
08670	6.15	15.3	35.4	1097	1.3	.08
08671 R	5.01	12.5	29.9	829	4.9	.25
MEAN	6.02	14.8	34.8	965	2.7	.15
S.D.	.990	1.98	5.24	303.7	1.87	.087

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ANIMAL NUMBER	RBC MI/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC MI/UL
GROUP: 3	DOSE LEVEL: 200	DOSE UNIT: MG/KG				
08702	6.30	16.8	37.2	756	NO TEST	NO TEST
08703 R	4.83	12.5	28.1	1019	5.6	.27
08704 R	5.67	13.0	34.0	1369	4.5	.26
08706	6.65	16.9	37.3	1381	.9	.06
08707	5.73	16.2	33.9	854	1.0	.06
08708	6.91	15.6	39.8	1089	2.7	.19
08709 R	5.22	12.2	28.7	1218	2.0	.10
08710	6.77	16.6	40.1	1338	.9	.06
08711	8.32	17.8	43.9	1321	1.3	.11
08712	7.42	15.6	42.8	967	.7	.05
MEAN	6.38	15.3	36.6	1131	2.2	.13
S.D.	1.056	2.01	5.41	227.1	1.77	.088
GROUP: 4	DOSE LEVEL: 800	DOSE UNIT: MG/KG				
08742	6.01	16.0	33.4	1251	1.1	.07
08743	5.15	13.4	30.7	1499	3.5	.18
08744 R	5.25	13.4	31.8	1084	3.4	.18
08745	6.17	16.2	36.0	1188	.9	.06
08746	5.82	16.5	34.4	509	3.2	.19
08747	5.86	15.5	34.2	918	1.9	.11
08748	5.84	16.0	33.7	1178	1.9	.11
08749	8.02	17.8	44.0	1268	1.4	.11
08750 R	4.52	11.1	27.0	1194	2.5	.11
08751	6.70	15.8	38.1	1292	1.6	.11
MEAN	5.93	15.2	34.3	1138	2.1	.12
S.D.	.949	1.96	4.54	266.2	.96	.045

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SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	WBC TH/UL	PLAST TH/UL (%)	METAB TH/UL (%)	BAND TH/UL (%)	SEG TH/UL (%)	LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASO TH/UL (%)
GROUP: 1	DOSE LEVEL: 0								
	DOSAGE UNIT: MG/KG								
08622 R	16.9	.0(0)	.0(0)	.0(0)	1.9(11)	14.2(84)	.7(4)	.2(1)	.0(0)
08623 R	14.6	.0(0)	.0(0)	.0(0)	2.8(19)	11.7(80)	.1(1)	.0(0)	.0(0)
08624	15.9	.0(0)	.0(0)	.0(0)	1.7(11)	13.5(85)	.2(1)	.5(3)	.0(0)
08625	16.7	.0(0)	.0(0)	.0(0)	3.5(21)	12.5(75)	.2(1)	.5(3)	.0(0)
08626	14.1	.0(0)	.0(0)	.0(0)	2.7(19)	11.1(79)	.0(0)	.3(2)	.0(0)
08627	10.2	.0(0)	.0(0)	.0(0)	1.3(13)	8.8(86)	.0(0)	.1(1)	.0(0)
08628	13.8	.0(0)	.0(0)	.0(0)	1.0(7)	12.7(92)	.0(0)	.1(1)	.0(0)
08629	18.9	.0(0)	.0(0)	.0(0)	1.9(10)	17.0(90)	.0(0)	.0(0)	.0(0)
08630	14.3	.0(0)	.0(0)	.0(0)	1.7(12)	12.3(86)	.1(1)	.1(1)	.0(0)
08631	17.7	.0(0)	.0(0)	.0(0)	2.8(16)	14.9(84)	.0(0)	.0(0)	.0(0)
MEAN	15.3	.0	.0	.0	2.1	12.9	.1	.2	.0
S.D.	2.47	.00	.00	.00	.78	2.23	.22	.19	.00
GROUP: 2	DOSE LEVEL: 100								
	DOSAGE UNIT: MG/KG								
08662 R	21.0	.0(0)	.0(0)	.0(0)	5.5(26)	15.3(73)	.0(0)	.2(1)	.0(0)
08663 R	18.8	.0(0)	.0(0)	.0(0)	6.4(34)	11.8(63)	.6(3)	.0(0)	.0(0)
08664	12.5	.0(0)	.0(0)	.0(0)	1.5(12)	10.5(84)	.1(1)	.4(3)	.0(0)
08665 R	18.6	.0(0)	.0(0)	.0(0)	3.5(19)	14.9(80)	.2(1)	.0(0)	.0(0)
08666	10.8	.0(0)	.0(0)	.0(0)	.8(7)	10.0(93)	.0(0)	.0(0)	.0(0)
08667	20.6	.0(0)	.0(0)	.0(0)	1.4(7)	19.2(93)	.0(0)	.0(0)	.0(0)
08668	19.0	.0(0)	.0(0)	.0(0)	5.7(30)	13.3(70)	.0(0)	.0(0)	.0(0)
08669	18.1	.0(0)	.0(0)	.0(0)	3.8(21)	14.1(78)	.0(0)	.2(1)	.0(0)
08670	12.0	.0(0)	.0(0)	.0(0)	1.9(16)	9.5(79)	.1(1)	.5(4)	.0(0)
08671 R	24.1	.0(0)	.0(0)	.0(0)	12.3(51)	10.8(45)	.7(3)	.2(1)	.0(0)
MEAN	17.5	.0	.0	.0	4.3	12.9	.2	.1	.0
S.D.	4.36	.00	.00	.00	3.45	3.03	.26	.18	.80

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SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	WBC TH/UL	BLAST TH/UL (%)	META TH/UL (%)	BAND TH/UL (%)	SEG TH/UL (%)	LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASO TH/UL (%)
GROUP: 3	DOSE LEVEL: 200								
	DOSAGE UNIT: MG/KG								
08702	21.6	.0( 0)	.0( 0)	.0( 0)	2.6(12)	17.9(83)	.6( 3)	.4( 2)	.0( 0)
08703 R	18.8	.0( 0)	.0( 0)	.0( 0)	5.8(31)	12.2(65)	.4( 2)	.4( 2)	.0( 0)
08704 R	18.7	.0( 0)	.0( 0)	.0( 0)	4.7(25)	14.0(75)	.0( 0)	.0( 0)	.0( 0)
08706	14.7	.0( 0)	.0( 0)	.0( 0)	2.1(14)	12.5(85)	.0( 0)	.1( 1)	.0( 0)
08707	18.5	.0( 0)	.0( 0)	.0( 0)	1.8(10)	16.5(89)	.2( 1)	.0( 0)	.0( 0)
08708	12.8	.0( 0)	.0( 0)	.0( 0)	1.2( 9)	11.4(89)	.1( 1)	.1( 1)	.0( 0)
08709 R	14.8	.0( 0)	.0( 0)	.0( 0)	5.3(36)	9.2(62)	.0( 0)	.3( 2)	.0( 0)
08710	17.5	.0( 0)	.0( 0)	.0( 0)	1.4( 8)	15.9(91)	.0( 0)	.2( 1)	.0( 0)
08711	10.8	.0( 0)	.0( 0)	.0( 0)	1.4(13)	9.2(85)	.1( 1)	.1( 1)	.0( 0)
08712	12.4	.0( 0)	.0( 0)	.0( 0)	2.0(16)	10.0(81)	.0( 0)	.4( 3)	.0( 0)
MEAN	16.1	.0	.0	.0	2.8	12.9	.1	.2	.0
S.D.	3.47	.00	.00	.00	1.75	3.11	.21	.16	.00
GROUP: 4	DOSE LEVEL: 800								
	DOSAGE UNIT: MG/KG								
08742	15.4	.0( 0)	.0( 0)	.0( 0)	1.2( 8)	14.0(91)	.0( 0)	.2( 1)	.0( 0)
08743	20.1	.0( 0)	.0( 0)	.0( 0)	4.0(20)	15.7(78)	.2( 1)	.2( 1)	.0( 0)
08744 R	18.0	.0( 0)	.0( 0)	.0( 0)	4.1(23)	13.5(75)	.4( 2)	.0( 0)	.0( 0)
08745	16.5	.0( 0)	.0( 0)	.0( 0)	1.3( 8)	15.0(91)	.2( 1)	.0( 0)	.0( 0)
08746	24.1	.0( 0)	.0( 0)	.0( 0)	2.7(11)	21.2(88)	.0( 0)	.2( 1)	.0( 0)
08747	12.7	.0( 0)	.0( 0)	.0( 0)	1.5(12)	10.5(83)	.3( 2)	.4( 3)	.0( 0)
08748	17.3	.0( 0)	.0( 0)	.0( 0)	1.9(11)	15.1(87)	.0( 0)	.3( 2)	.0( 0)
08749	19.1	.0( 0)	.0( 0)	.0( 0)	2.1(11)	16.8(88)	.0( 0)	.2( 1)	.0( 0)
08750 R	18.2	.0( 0)	.0( 0)	.0( 0)	6.9(38)	11.3(62)	.0( 0)	.0( 0)	.0( 0)
08751	15.6	.0( 0)	.0( 0)	.0( 0)	2.2(14)	12.9(83)	.2( 1)	.3( 2)	.0( 0)
MEAN	17.7	.0	.0	.0	2.8	14.6	.1	.2	.0
S.D.	3.08	.00	.00	.00	1.77	3.02	.15	.14	.00

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ANIMAL NUMBER	POLY	TARGET	ECHINO	ACANTH	POIK	HJBODY	NRBC
GROUP: 1 DOSE LEVEL: 0 DOSAGE UNIT: MG/KG							
08622 R	1+	-	4+	T	-	-	-
08623 R	1+	-	4+	-	-	-	-
08624	T	-	4+	-	-	-	-
08625	T	-	4+	-	-	-	-
08626	T	T	4+	-	-	-	-
08627	T	-	4+	-	-	-	-
08628	1+	-	4+	-	-	-	-
08629	T	-	4+	-	-	-	1
08630	T	-	4+	-	-	-	-
08631	T	-	3+	-	-	-	-
GROUP: 2 DOSE LEVEL: 100 DOSAGE UNIT: MG/KG							
08662 R	1+	-	4+	-	-	-	-
08663 R	1+	-	2+	T	-	-	-
08664	T	-	4+	-	-	-	-
08665 R	1+	-	4+	-	-	-	-
08666	T	-	4+	-	-	-	-
08667	T	-	4+	-	-	-	-
08668	T	-	4+	-	-	-	-
08669	T	-	4+	-	-	-	-
08670	T	-	4+	-	-	-	-
08671 R	1+	-	4+	-	-	FEW	-
GROUP: 3 DOSE LEVEL: 200 DOSAGE UNIT: MG/KG							
08702	1+	-	4+	-	-	-	-
08703 R	1+	-	4+	-	-	-	-
08704 R	1+	-	4+	-	-	-	-
08706	T	-	4+	-	-	-	-
08707	T	-	4+	-	-	-	-
08708	T	-	4+	-	-	-	-
08709 R	T	-	3+	-	-	-	-
08710	1+	-	4+	-	-	-	-
08711	T	-	4+	-	-	-	-
08712	T	-	3+	-	T	-	-



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SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	POLY	TARGET	ECHINO	ACANTH	POIK	HJBODY	NRBC
GROUP: 4	DOSE LEVEL: 800		DOSAGE UNIT: MG/KG				
08742	T	-	4+	-	-	-	-
08743	T	-	2+	-	-	-	-
08744 R	1+	-	4+	-	-	-	-
08745	T	-	3+	T	-	-	-
08746	T	-	4+	-	-	-	-
08747	T	-	4+	-	-	-	-
08748	T	-	4+	-	-	-	-
08749	T	-	4+	-	-	-	-
08750 R	T	-	3+	-	-	-	-
08751	T	-	4+	-	-	-	-

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INDIVIDUAL CLINICAL PATHOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

PATHOLOGY	RAW	HGB	HCT	PLATELET	RETIC	A RETIC
NUMBER	MG/100	G/DL	%	TH/UL	% RBC	ML/UL

GROUP: 1 DOSE LEVEL: 0 DOSEAGE UNIT: MG/KG

08602	7.86	14.6	40.5	1106	.8	.06
08603	7.40	14.7	40.0	962	.3	.02
08604	6.31	12.7	34.5	1346	2.3	.15
08605	8.02	15.7	43.4	1183	1.5	.12
08606	7.85	15.1	43.1	940	.5	.04
08607	8.10	15.6	44.6	997	2.1	.17
08608	6.05	12.2	33.3	1251	2.8	.17
08609	7.35	14.7	40.6	1057	.5	.04
08610	7.88	15.1	42.6	1250	.2	.02
08611	7.80	14.6	42.5	998	2.1	.16
08612	7.47	14.4	40.5	1109	1.3	.09
08613	7.24	14.1	37.8	141.2	.96	.065

GROUP: 2 DOSE LEVEL: 100 DOSEAGE UNIT: MG/KG

08614	7.49	14.3	39.2	1258	.7	.05
08615	7.36	14.5	40.3	1069	1.9	.14
08616	7.50	15.1	42.2	930	1.1	.08
08617	8.08	15.2	44.0	1200	1.1	.09
08618	7.67	15.0	42.3	1002	1.2	.09
08619	8.07	15.3	44.3	1168	1.3	.10
08620	8.64	16.1	45.5	1132	1.5	.13
08621	8.14	16.0	44.0	1087	.7	.06
08622	7.99	15.5	44.0	1154	2.1	.17
08623	7.55	15.0	42.4	875	2.0	.15
08624	7.85	15.2	42.8	1088	1.4	.11
08625	7.40	16.0	1.94	121.2	.51	.040

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INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

INITIAL NUMBER	RBC M/UL	HGB G/DL	HCT %	PLATELET TH/UL	RETIC % RBC	A RETIC M/UL
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GROUP: 3 DOSE LEVEL: 200 DOSAGE UNIT: MG/KG

083702	7.48	15.2	41.4	1058	2.0	.15
083703	8.48	16.3	45.3	853	.7	.06
083704	8.02	16.2	44.9	1293	2.0	.16
083707	7.35	14.2	40.4	1081	1.4	.10
083708	8.06	15.2	43.1	1035	1.2	.10
083709	8.12	15.1	42.3	1141	1.2	.10
083710	7.21	14.6	40.9	1074	2.6	.19
083711	8.69	15.8	43.2	1216	1.2	.10
083712	7.95	15.8	42.8	1143	1.0	.08
083713	7.41	14.2	40.4	1061	3.0	.22

Mean	7.88	15.3	42.5	1096	1.6	.13
S.D.	.499	.30	1.74	117.2	.74	.051

GROUP: 4 DOSE LEVEL: 800 DOSAGE UNIT: MG/KG

083742	8.17	15.3	42.1	1291	.5	.04
083744	7.28	14.8	41.2	981	1.1	.08
083746	7.28	15.9	44.2	881	1.5	.12
083747	7.22	15.3	41.8	892	1.2	.09
083748	7.27	14.9	41.8	1006	.7	.05
083749	8.47	15.5	45.2	1036	1.3	.11
083750	7.35	14.4	40.6	1138	.9	.07
083751	7.67	14.2	40.5	1195	2.7	.21
083752	8.20	15.5	43.9	1083	1.6	.13
083753	7.60	14.8	42.0	1280	1.2	.09

Mean	7.80	15.1	42.3	1070	1.3	.10
S.D.	.578	.46	1.58	148.4	.61	.048

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INDIVIDUAL UTERINE HISTOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

INITIAL GROUP	WBC TH/UL (%)	BLAST TH/UL (%)	META TH/UL (%)	BAND TH/UL (%)	SEIS TH/UL (%)	LYMPH TH/UL (%)	PLASMA TH/UL (%)	EOSIN TH/UL (%)	BASO TH/UL (%)
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GROUP: 1 DOSE LEVEL: 0 DOSE UNIT: MG/KG

UB602	12.2	.00	.00	.00	.90	11.10	.10	.10	.00
UB603	11.9	.00	.00	.00	.80	10.70	.20	.10	.00
UB604	9.2	.00	.00	.00	1.90	6.80	.20	.30	.00
UB605	10.4	.00	.00	.00	1.90	8.30	.00	.20	.00
UB606	11.1	.00	.00	.00	1.10	9.70	.00	.30	.00
UB607	4.6	.00	.00	.00	.60	4.80	.00	.00	.00
UB608	9.6	.00	.00	.00	1.00	8.60	.00	.00	.00
UB609	11.8	.00	.00	.00	1.90	9.90	.00	.00	.00
UB610	12.1	.00	.00	.00	1.20	10.80	.00	.10	.00
UB611	8.7	.00	.00	.00	2.60	5.90	.10	.10	.00
MEAN	10.2	.00	.00	.00	1.40	8.60	.10	.10	.00
S.D.	2.55	.00	.00	.00	.64	2.36	.08	.11	.00

GROUP: 2 DOSE LEVEL: 100 DOSE UNIT: MG/KG

UB602	16.2	.00	.00	.00	1.60	14.40	.00	.20	.00
UB603	11.5	.00	.00	.00	4.10	7.10	.10	.10	.00
UB604	15.0	.00	.00	.00	1.40	13.50	.20	.00	.00
UB605	7.8	.00	.00	.00	1.30	6.40	.00	.10	.00
UB606	11.9	.00	.00	.00	2.50	9.20	.10	.10	.00
UB607	17.5	.00	.00	.00	.70	16.50	.00	.30	.00
UB608	9.5	.00	.00	.00	.80	8.70	.00	.00	.00
UB609	12.0	.00	.00	.00	1.40	10.60	.00	.00	.00
UB610	12.9	.00	.00	.00	3.90	8.80	.00	.30	.00
UB611	16.3	.00	.00	.00	3.40	12.60	.20	.20	.00
MEAN	13.1	.00	.00	.00	2.10	10.80	.10	.10	.00
S.D.	3.15	.00	.00	.00	1.27	3.35	.08	.12	.00

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INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

PATIENT NUMBER	WBC TH/UL	BLAST TH/UL (%)	META TH/UL (%)	DOSE UNIT: MG/KG		LYMPH TH/UL (%)	MONO TH/UL (%)	EOSIN TH/UL (%)	BASO TH/UL (%)
GROUP: 3	DOSE LEVEL: 200								
08200	13.6	.00 (0)	.00 (0)	.00 (0)	2.4 (18)	11.0 (81)	.00 (0)	.14 (1)	.00 (0)
08203	10.2	.00 (0)	.00 (0)	.00 (0)	1.6 (16)	8.4 (82)	.00 (0)	.20 (2)	.00 (0)
08204	9.8	.00 (0)	.00 (0)	.00 (0)	1.9 (19)	7.9 (81)	.00 (0)	.00 (0)	.00 (0)
08207	12.0	.00 (0)	.00 (0)	.00 (0)	1.7 (14)	10.1 (84)	.11 (1)	.10 (1)	.00 (0)
08208	10.7	.00 (0)	.00 (0)	.00 (0)	1.5 (14)	9.2 (86)	.00 (0)	.00 (0)	.00 (0)
08209	6.6	.00 (0)	.00 (0)	.00 (0)	.7 (11)	5.7 (87)	.00 (0)	.10 (2)	.00 (0)
08210	13.5	.00 (0)	.00 (0)	.00 (0)	.7 (5)	12.4 (92)	.00 (0)	.40 (3)	.00 (0)
08211	8.6	.00 (0)	.00 (0)	.00 (0)	.9 (10)	7.6 (88)	.11 (1)	.10 (1)	.00 (0)
08212	10.4	.00 (0)	.00 (0)	.00 (0)	.5 (5)	9.7 (93)	.00 (0)	.20 (2)	.00 (0)
08213	12.3	.00 (0)	.00 (0)	.00 (0)	1.6 (13)	10.2 (83)	.11 (1)	.40 (3)	.00 (0)
08214	10.8	.00	.00	.00	1.3	9.2	.00	.20	.00
08215	2.18	.00	.00	.00	.62	1.91	.05	.14	.00
GROUP: 4	DOSE LEVEL: 800								
08242	7.9	.00 (0)	.00 (0)	.00 (0)	.9 (11)	7.0 (88)	.00 (0)	.10 (1)	.00 (0)
08244	9.4	.00 (0)	.00 (0)	.00 (0)	1.0 (11)	8.0 (85)	.11 (1)	.30 (3)	.00 (0)
08246	20.0	.00 (0)	.00 (0)	.00 (0)	2.0 (10)	18.0 (90)	.00 (0)	.00 (0)	.00 (0)
08247	10.8	.00 (0)	.00 (0)	.00 (0)	1.1 (10)	9.5 (88)	.00 (0)	.20 (2)	.00 (0)
08248	14.5	.00 (0)	.00 (0)	.00 (0)	4.8 (33)	9.6 (66)	.00 (0)	.10 (1)	.00 (0)
08249	11.1	.00 (0)	.00 (0)	.00 (0)	3.4 (31)	7.3 (66)	.20 (2)	.10 (1)	.00 (0)
08250	12.9	.00 (0)	.00 (0)	.00 (0)	1.0 (8)	11.6 (90)	.00 (0)	.30 (2)	.00 (0)
08251	13.2	.00 (0)	.00 (0)	.00 (0)	3.3 (25)	9.8 (74)	.00 (0)	.10 (1)	.00 (0)
08252	9.0	.00 (0)	.00 (0)	.00 (0)	1.5 (17)	7.4 (82)	.00 (0)	.10 (1)	.00 (0)
08253	13.9	.00 (0)	.00 (0)	.00 (0)	2.5 (18)	11.4 (82)	.00 (0)	.00 (0)	.00 (0)
08254	12.3	.00	.00	.00	2.1	10.0	.00	.10	.00
08255	3.50	.00	.00	.00	1.32	3.22	.07	.11	.00

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SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	POU	ECHEN	ACANTH	POUR	
GROUP: 1	DOSE LEVEL: 0	DOSE UNIT: MG/KG			
086002	1	-	-	-	
086003	1	3+	-	-	
086004	1+	2+	-	-	
086005	1+	1	-	-	
086006	1	-	-	-	
086007	1	-	-	-	
086008	1+	3+	-	-	
086009	1	1+	-	-	
086010	1	1	-	-	
086011	1	1	-	-	
GROUP: 2	DOSE LEVEL: 100	DOSE UNIT: MG/KG			
086012	1	1+	-	-	
086013	1	1	-	-	
086014	1+	1	-	-	
086015	1+	1	-	-	
086016	1+	1	-	-	
086017	1	1	-	-	
086018	1	-	-	-	
086019	1	1	-	-	
086020	1	1	-	-	
086021	1+	1	-	-	
086022	1	1	-	-	
GROUP: 4	DOSE LEVEL: 200	DOSE UNIT: MG/KG			
086023	1	1	-	-	
086024	1	-	-	-	
086025	1+	1	-	-	
086026	1	3+	-	-	
086027	1	-	-	-	
086028	1	1	-	-	
086029	1	1	-	-	
086030	1	1+	-	-	
086031	1	1	-	-	
086032	1	1	-	-	

S2399110

WEEK: 013

FEMALES

RAT

POIK

ACANTH

POIK

APPENDIX 6  
INDIVIDUAL CLINICAL HEMATOLOGY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	POIK	ACANTH	POIK	DOSAGE UNIT: MG/KG
GROUP: 4	DISE LEVEL: 800			
08742	T	-	-	
08744	T	-	-	
08746	-	-	-	
08747	T	-	-	
08748	T	-	-	
08749	T	-	-	
08750	T	-	-	
08751	1+	-	-	
08752	1+	-	-	
08753	T	-	-	



**HAZLETON**

LABORATORIES AMERICA, INC.  
1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

HLA 2399-110

- 150 -

## APPENDIX 7

### Individual Clinical Chemistry Values





**HAZLETON**

LABORATORIES AMERICA, INC.

1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

2399-110

KEY TO CLINICAL CHEMISTRY

H1 = Trace Hemolysis

H2 = Slight Hemolysis

H3 = Moderate Hemolysis

H4 = Marked Homolysis

H5 = Severe Hemolysis

SL = Slightly Lipemic

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APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 5	DOSE LEVEL: BASELINE DOSAGE UNIT:									
08762 H2	144.8	6.35	103.8	5.7	3.9	1.8	2.17	10.8	10.2	.0
08763	142.2	5.64	101.8	5.3	3.4	1.9	1.79	11.1	10.1	.0
08764 H2	145.7	7.27	107.6	5.6	3.7	1.9	1.95	9.9	QNS	QNS
08765	145.3	5.97	107.2	5.2	3.8	1.4	2.71	11.4	11.0	.2
08766	145.7	6.64	104.5	5.4	3.7	1.7	2.18	10.7	10.6	.2
MEAN	144.7	6.37	105.0	5.4	3.7	1.7	2.16	10.8	10.5	.1
S.D.	1.47	.628	2.43	.21	.19	.21	.348	.56	.41	.12

S2399110      RAT      MALES      WEEK: -01      PAGE: 1

APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 5	DOSE LEVEL: BASELINE      DOSEAGE UNIT:							
08762 H2	16	.7	97	80	178	37	243	639
08763	7	.7	79	114	90	23	175	430
08764 H2	13	QNS	80	QNS	213	47	460	879
08765	19	.7	109	91	100	28	285	716
08766	15	.7	103	73	95	23	298	551
MEAN	14	.7	94	90	135	32	292	643
S.D.	4.5	.00	13.6	17.9	56.5	10.3	105.4	169.5

S2399110 RAT MALES WEEK: 005 PAGE: 1

APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 1 DOSE LEVEL: 0 DOSAGE UNIT: MG/KG										
08602	147.1	5.87	108.3	6.1	3.7	2.4	1.54	10.1	8.9	.0
08603	144.8	5.59	106.0	6.2	3.8	2.4	1.58	10.7	9.2	.0
08604 HI	145.6	6.38	108.8	5.8	3.8	2.0	1.90	10.4	9.4	.0
08605 HI	147.6	6.76	106.8	6.8	4.2	2.6	1.62	11.1	10.5	.0
08606 HI	145.2	6.35	106.8	6.3	4.1	2.2	1.86	10.1	8.6	.0
08607 HI	149.3	6.49	107.5	6.6	4.0	2.6	1.54	10.5	10.3	.0
08608	144.5	5.67	106.5	5.7	3.8	1.9	2.00	10.6	8.7	.1
08609 HI	146.1	6.30	107.5	6.6	4.2	2.4	1.75	10.7	9.0	.1
08610	146.8	6.63	106.8	6.8	4.3	2.5	1.72	10.6	9.6	.0
08611	144.9	5.73	106.3	5.8	3.8	2.0	1.90	9.9	8.4	.0
MEAN	146.2	6.18	107.1	6.3	4.0	2.3	1.74	10.5	9.3	.0
S.D.	1.51	.425	.89	.42	.22	.26	.168	.36	.78	.04
GROUP: 2 DOSE LEVEL: 100 DOSAGE UNIT: MG/KG										
08642	143.4	5.38	100.3	6.6	4.0	2.6	1.54	10.9	9.8	.0
08643 HI	146.1	6.98	106.6	6.3	4.0	2.3	1.74	10.8	9.2	.0
08644	144.6	6.50	109.0	5.8	3.7	2.1	1.76	10.3	8.6	.0
08645 HI	145.7	5.85	105.0	6.2	3.8	2.4	1.58	10.5	8.8	.0
08646	145.6	5.63	104.3	6.4	4.0	2.4	1.67	10.8	9.4	.0
08647 HI	145.1	6.78	107.5	6.6	4.1	2.5	1.64	10.4	8.4	.1
08648 HI	145.9	7.16	105.0	5.4	2.7	2.7	1.88	10.4	9.2	.2
08649 HI	145.8	5.56	105.6	6.3	3.9	2.4	1.63	10.7	9.2	.1
08650 HI	148.1	6.28	109.7	6.4	4.0	2.4	1.67	10.7	10.6	.0
08651 HI	144.6	6.44	106.5	5.9	3.8	2.1	1.81	10.1	8.4	.0
MEAN	145.5	6.26	105.9	6.2	3.8	2.4	1.60	10.6	9.2	.0
S.D.	1.23	.625	2.65	.38	.41	.19	.227	.26	.68	.07

S2399110 RAT MALES WEEK: 005 PAGE: 2

APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 3	DOSE LEVEL: 200 DOSAGE UNIT: MG/KG									
08682 H1	147.7	6.33	109.2	6.2	4.0	2.2	1.82	10.2	9.5	.0
08683	139.9	5.99	105.8	5.8	3.7	2.1	1.76	9.8	7.7	.0
08684	143.4	6.10	105.5	6.1	3.8	2.3	1.65	10.7	8.5	.0
08685	146.1	6.74	106.0	6.1	3.9	2.2	1.77	10.9	9.6	.0
08686 H1	146.7	5.93	109.2	6.1	4.0	2.1	1.90	10.5	8.2	.0
08687 H1	145.1	6.19	107.5	6.3	4.3	2.0	2.15	10.5	9.2	.1
08688 H1	143.9	6.17	104.8	6.0	3.8	2.2	1.73	10.2	8.5	.1
08689	145.3	5.89	106.0	6.6	4.0	2.6	1.54	10.4	9.0	.1
08690	146.6	6.52	106.8	7.0	4.2	2.8	1.50	10.7	9.0	.0
08691	145.5	6.47	105.8	6.4	4.0	2.4	1.67	10.5	9.7	.0
MEAN	145.0	6.23	106.7	6.3	4.0	2.3	1.75	10.4	8.9	.0
S.D.	2.21	.278	1.52	.34	.18	.25	.186	.31	.65	.05
GROUP: 4	DOSE LEVEL: 800 DOSAGE UNIT: MG/KG									
08722 H1	145.6	6.39	107.5	6.4	4.3	2.1	2.05	11.1	9.8	.0
08723	147.4	5.86	109.5	6.3	4.0	2.3	1.74	11.2	9.6	.0
08724	145.3	5.99	107.0	5.7	3.6	2.1	1.71	10.5	9.5	.0
08725 H2	146.4	7.24	106.6	6.1	3.9	2.2	1.77	10.5	10.7	.0
08726 H1	146.4	6.58	108.3	6.2	3.8	2.4	1.58	10.8	10.1	.0
08727 H1	144.9	6.79	105.5	6.6	4.2	2.4	1.75	11.2	8.8	.1
08728 H1	145.5	6.17	107.5	6.6	4.1	2.5	1.64	10.7	9.6	.1
08729	145.6	6.23	104.5	6.6	4.1	2.5	1.64	10.7	8.7	.1
08730	146.2	6.30	107.0	5.9	3.8	2.1	1.81	10.1	9.0	.0
08731	144.0	6.25	107.0	6.2	3.9	2.3	1.70	10.3	9.1	.0
MEAN	145.7	6.38	107.0	6.3	4.0	2.3	1.74	10.7	9.5	.0
S.D.	.93	.403	1.38	.31	.21	.16	.129	.38	.62	.05

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RAT

MALES

WEEK: 005

PAGE: 1

APPENDIX 7

INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 1	DOSE LEVEL: 0	DOSAGE UNIT: MG/KG						
08602	8	.7	83	106	85	22	144	482
08603	10	.6	90	74	68	24	196	288
08604 HI	13	.6	104	78	135	43	171	842
08605 HI	10	.6	85	55	115	33	214	586
08606 HI	12	.7	102	88	129	36	155	572
08607 HI	11	.6	101	41	232	44	126	770
08608	10	.6	99	60	66	22	124	436
08609 HI	11	.7	105	78	74	29	178	391
08610	10	.8	99	59	96	31	151	556
08611	11	.6	104	53	61	26	149	199
MEAN	11	.6	97	68	106	31	161	512
S.D.	1.3	.07	8.2	19.0	51.6	8.0	29.0	198.9
GROUP: 2	DOSE LEVEL: 100	DOSAGE UNIT: MG/KG						
08642	21	.8	96	67	64	30	159	92
08643 HI	9	.6	90	62	86	26	136	545
08644	8	.6	94	50	92	31	106	287
08645 HI	11	.6	90	66	96	31	93	683
08646	10	.6	86	123	78	23	152	436
08647 HI	9	.8	118	101	105	30	99	705
08648 HI	15	.6	109	309	40	25	103	156
08649 HI	9	.6	104	55	103	34	187	354
08650 HI	11	.7	92	49	170	44	162	436
08651 HI	8	.6	97	59	87	31	167	430
MEAN	11	.6	98	94	92	31	136	412
S.D.	4.0	.08	9.9	79.1	33.6	5.8	33.7	201.5

S2399110 RAT MALES WEEK: 005 PAGE: 2

APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 3 DOSE LEVEL: 200 DOSAGE UNIT: MG/KG								
08682 HI	11	.6	98	63	129	46	139	320
08683	14	.6	87	46	108	66	116	511
08684	13	.5	114	56	66	25	172	437
08685	13	.6	98	62	100	27	189	970
08686 HI	9	.6	102	54	81	32	142	462
08687 HI	9	.7	100	63	96	43	157	457
08688 HI	13	.7	96	59	107	43	157	547
08689	10	.7	108	56	66	20	130	234
08690	9	.7	98	81	79	32	178	174
08691	10	.7	123	65	89	23	134	188
MEAN	11	.6	102	61	92	36	151	430
S.D.	2.0	.07	10.2	9.1	19.9	14.0	23.2	232.9
GROUP: 4 DOSE LEVEL: 800 DOSAGE UNIT: MG/KG								
08722 HI	11	.6	106	76	88	35	176	490
08723	7	.7	78	113	67	26	112	337
08724	8	.7	83	55	79	31	141	245
08725 HI	10	.4	93	64	258	52	133	1040
08726 HI	9	.6	94	83	93	32	151	597
08727 HI	13	.7	102	109	87	33	165	765
08728 HI	8	.7	95	92	121	41	160	627
08729	7	.7	99	74	74	30	160	425
08730	7	.7	99	77	85	33	158	316
08731	12	.7	98	63	93	36	180	505
MEAN	9	.6	95	81	105	35	154	535
S.D.	2.2	.10	8.5	19.2	55.8	7.2	20.4	237.2

APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 1	DOSE LEVEL: 0									
	DOSE UNIT: MG/KG									
08602	152.1	5.95	107.9	6.9	4.0	2.9	1.38	10.6	7.7	.0
08603	146.1	6.00	106.0	6.3	3.7	2.6	1.42	10.6	7.9	.1
08604	148.1	5.89	109.0	6.0	3.8	2.2	1.73	10.1	7.9	.1
08605	152.5	5.89	104.1	6.8	3.9	2.9	1.34	10.5	7.9	.0
08606	151.4	6.25	107.4	5.9	3.7	2.2	1.68	9.7	7.4	.1
08607	150.9	6.41	104.1	6.6	3.8	2.8	1.36	10.1	7.4	.0
08608 H1	148.9	6.03	104.6	6.4	4.0	2.4	1.67	10.4	7.4	.1
08609	149.8	6.40	103.4	6.4	3.7	2.7	1.37	10.5	7.7	.1
08610	147.7	6.57	108.8	6.3	3.9	2.4	1.63	10.6	8.6	.0
08611	144.9	6.31	103.6	6.3	3.9	2.4	1.63	11.0	8.7	.2
MEAN	149.2	6.17	105.9	6.4	3.8	2.5	1.52	10.4	7.9	.1
S.D.	2.56	.247	2.21	.31	.12	.27	.159	.36	.46	.07
GROUP: 2	DOSE LEVEL: 100									
	DOSE UNIT: MG/KG									
08642	150.7	5.89	106.9	6.7	4.0	2.7	1.48	10.5	7.5	.0
08643 H1	147.5	5.92	101.7	6.5	3.8	2.7	1.41	10.3	7.3	.1
08644	147.5	5.80	106.0	5.9	3.7	2.2	1.68	9.9	7.0	.0
08645	150.1	6.28	105.1	6.9	4.0	2.9	1.38	10.3	7.1	.1
08646 H1	147.7	5.94	99.8	6.4	3.8	2.6	1.46	10.1	8.0	.1
08647 H1	148.0	5.68	109.4	6.9	4.1	2.8	1.46	10.4	6.9	.0
08648 H2,SL	146.3	6.46	103.6	6.1	2.6	3.5	.74	10.4	9.6	.1
08649	147.0	5.81	103.6	6.3	3.6	2.7	1.33	10.6	8.3	.1
08650	153.4	5.89	105.3	6.3	4.0	2.3	1.74	10.9	7.5	.0
08651	146.4	5.47	102.5	6.0	3.7	2.3	1.61	10.4	6.7	.0
MEAN	148.5	5.91	104.4	6.4	3.7	2.7	1.43	10.4	7.6	.0
S.D.	2.26	.281	2.76	.35	.43	.37	.276	.27	.86	.05



S2399110

WEEK: 013

MALES

RAT

GROUP: 3

POTAS

CHLORIDE

GROUP: 4

MEAN

# APPENDIX 7

## INDIVIDUAL CLINICAL CHEMISTRY VALUES SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 3	DOSE LEVEL: 200	DOSE UNIT: MG/KG								
08682	150.7	5.94	104.8	6.9	4.2	2.7	1.56	10.6	7.4	.1
08683	149.5	6.04	104.8	6.4	4.0	2.4	1.67	10.3	7.8	.1
08684	147.2	6.27	102.9	6.4	3.8	2.6	1.46	10.6	7.7	.2
08685	148.0	6.26	103.4	6.4	3.7	2.7	1.37	10.3	7.4	.0
08686	148.6	5.85	106.3	6.1	3.8	2.3	1.65	9.8	6.4	.0
08687	150.6	5.91	108.7	6.5	4.0	2.5	1.60	10.6	8.2	.1
08688	148.3	5.92	103.0	6.2	3.5	2.7	1.30	9.6	6.9	.0
08689	149.3	6.09	102.9	7.1	4.1	3.0	1.37	10.7	7.7	.1
08690	149.8	6.35	104.2	6.2	3.9	2.3	1.70	10.4	7.9	.2
08691	150.9	5.66	103.7	7.2	4.1	3.1	1.32	10.8	7.1	.0
MEAN	149.2	6.03	104.5	6.5	3.9	2.6	1.50	10.4	7.4	.1
S.D.	1.29	.216	1.84	.39	.21	.27	.154	.39	.53	.08
GROUP: 4	DOSE LEVEL: 800	DOSE UNIT: MG/KG								
08723	148.5	6.61	106.0	6.7	3.9	2.8	1.39	10.8	9.2	.0
08724	150.8	6.84	106.7	6.3	3.8	2.5	1.52	10.4	8.0	.0
08726	150.7	6.13	103.7	7.1	4.1	3.0	1.37	10.8	8.2	.1
08727	147.5	6.34	103.4	6.3	3.7	2.6	1.42	9.9	7.4	.0
08728	148.8	6.18	103.4	6.5	4.0	2.5	1.60	10.3	7.8	.0
08730	151.9	6.28	106.0	6.8	4.0	2.8	1.43	10.7	8.1	.0
08731	148.8	6.57	101.7	7.6	4.1	3.5	1.17	10.8	8.1	.0
08732	149.2	6.37	104.2	6.8	4.1	2.7	1.52	10.6	7.9	.0
08733	147.0	6.06	105.6	6.4	3.9	2.5	1.56	10.9	7.4	.0
08734	145.9	6.10	104.1	6.8	4.1	2.7	1.52	11.3	8.3	.0
MEAN	148.9	6.35	104.5	6.7	4.0	2.8	1.45	10.6	8.0	.0
S.D.	1.85	.255	1.55	.40	.14	.31	.124	.38	.51	.03

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APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 1	DOSE LEVEL: 0 DOSAGE UNIT: MG/KG							
08602	11	.8	115	87	66	26	73	149
08603	10	.6	135	69	52	22	86	104
08604	16	.5	130	82	60	27	75	292
08605	17	.6	126	114	66	31	90	103
08606	10	.5	100	83	48	27	62	137
08607	12	.6	103	40	59	28	62	105
08608 H1	15	.5	116	61	46	21	53	69
08609	15	.7	112	74	53	20	98	69
08610	9	.7	126	55	58	25	68	407
08611	11	.6	141	67	61	35	70	229
MEAN	13	.6	120	73	57	26	74	166
S.D.	2.9	.10	13.5	20.2	7.0	4.6	14.0	110.3
GROUP: 2	DOSE LEVEL: 100 DOSAGE UNIT: MG/KG							
08642	11	.7	114	85	67	26	72	151
08643 H1	12	.5	109	56	45	25	61	73
08644	13	.6	120	59	49	24	57	53
08645	15	.6	103	59	63	23	61	117
08646 H1	10	.5	88	93	53	24	77	122
08647 H1	12	.5	160	93	65	23	50	560
08648 H2,SL	52	1.4	91	430	35	24	72	125
08649	11	.6	128	63	51	23	95	112
08650	10	.7	116	47	47	22	84	40
08651	7	.6	112	58	53	23	81	124
MEAN	15	.7	114	104	53	24	71	148
S.D.	13.1	.27	20.3	115.6	9.9	1.2	13.8	149.1

S2399110

WEEK: 013

MALES

RAT

GLUCOSE

CREAT

BUN

ANIMAL NUMBER

APPENDIX 7

INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 3	DOSE LEVEL: 200							
	DOSAGE UNIT: MG/KG							
08682	12	.7	116	111	52	26	84	56
08683	10	.6	109	50	50	20	74	104
08684	12	.5	135	75	52	29	87	158
08685	11	.6	103	59	52	21	80	133
08686	13	.6	115	49	56	25	62	207
08687	11	.7	111	67	56	22	72	226
08688	15	.6	90	63	61	31	73	138
08689	11	.5	125	80	50	17	72	61
08690	8	.6	113	70	50	23	78	87
08691	11	.7	116	79	56	24	78	97
MEAN	11	.6	113	70	54	24	76	127
S.D.	1.8	.07	12.0	18.0	3.6	4.2	7.1	57.5
GROUP: 4	DOSE LEVEL: 800							
	DOSAGE UNIT: MG/KG							
08723	9	.6	109	117	51	22	47	221
08724	9	.6	105	58	62	32	80	114
08726	9	.5	105	100	55	28	95	59
08727 H1	12	.5	100	100	53	25	71	114
08728	12	.6	83	81	61	31	91	89
08730	10	.7	97	89	67	28	69	132
08731	23	.6	98	101	62	35	105	98
08732	10	.6	101	102	50	20	67	101
08733	8	.6	132	90	52	29	56	180
08734	9	.7	109	113	50	24	62	206
MEAN	11	.6	104	95	56	27	74	131
S.D.	4.4	.07	12.4	16.9	6.1	4.7	18.3	53.4

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APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 5	DOSE LEVEL: BASELINE									
08767 H2	143.2	8.02	106.4	5.2	3.6	1.6	2.25	10.2	11.0	.0
08768	143.5	6.21	105.1	5.4	3.6	1.8	2.00	10.9	11.1	.0
08769	143.4	5.74	102.3	5.2	3.5	1.7	2.06	11.0	10.4	.0
08770	145.7	5.63	106.9	5.8	4.0	1.8	2.22	11.3	9.7	.0
08771 H1	144.1	6.23	105.0	5.5	3.8	1.7	2.24	10.9	10.2	.0
MEAN	144.0	6.37	105.1	5.4	3.7	1.7	2.15	10.9	10.5	.0
S.D.	1.02	.963	1.79	.25	.20	.08	.116	.40	.58	.00

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APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 5	DOSE LEVEL: BASELINE DOSAGE UNIT:							
08767 H2	16	QNS	101	67	385	57	140	767
08768	16	.7	103	102	109	28	167	634
08769	13	.6	101	162	76	26	196	469
08770	13	.6	104	108	84	22	122	544
08771 H1	15	.5	97	103	163	40	267	547
MEAN	15	.6	101	108	163	35	178	592
S.O.	1.5	.08	2.7	34.1	128.5	14.2	56.9	113.8

52399110

RAT

FEMALES

WEEK: 005

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APPENDIX 7

INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 1	DOSE LEVEL: 0	DOSE UNIT: MG/KG								
08622 HI	144.9	5.97	107.2	6.9	4.3	2.6	1.65	10.3	8.7	.0
08623	145.2	6.60	106.3	7.3	4.4	2.9	1.52	10.6	8.4	.0
08624 HI, SL	143.1	6.41	106.9	6.3	3.1	3.2	.97	10.9	9.2	.1
08625 HI	146.0	6.56	110.0	6.1	3.8	2.3	1.65	10.3	9.0	.0
08626	142.4	6.20	106.6	6.8	4.0	2.8	1.43	9.8	7.5	.0
08627	145.9	5.83	110.7	6.7	4.3	2.4	1.79	10.4	8.6	.1
08628 HI, SL	142.6	5.86	104.5	6.1	3.0	3.1	.97	11.4	7.2	.2
08629	141.3	6.09	107.7	6.9	4.4	2.5	1.76	10.5	7.2	.1
08630 HI	145.6	6.66	110.5	7.0	4.2	2.8	1.50	10.5	8.0	.1
08631 HI	143.8	5.12	108.2	7.0	4.1	2.9	1.41	10.0	8.5	.1
MEAN	144.1	6.13	107.9	6.7	4.0	2.8	1.46	10.5	8.2	.1
S.D.	1.67	.469	2.01	.41	.51	.30	.291	.45	.72	.07
GROUP: 2	DOSE LEVEL: 100	DOSE UNIT: MG/KG								
08662 HI	142.5	5.07	108.4	6.7	4.2	2.5	1.68	9.9	7.6	.2
08663	141.0	5.50	105.6	6.4	3.9	2.5	1.56	9.9	7.5	.1
08664 HI	146.2	6.44	108.5	7.0	4.3	2.7	1.59	10.7	8.4	.0
08665 HI	142.3	5.53	106.4	6.8	4.2	2.6	1.62	10.4	7.0	.1
08666 HI	149.5	6.51	112.2	6.6	4.0	2.6	1.54	10.4	10.3	.0
08667	144.7	6.04	107.6	6.5	4.3	2.2	1.95	10.6	8.6	.0
08668	146.6	6.26	106.9	6.3	4.0	2.3	1.74	10.5	9.6	.0
08669	147.0	6.31	106.8	7.5	4.8	2.7	1.78	10.9	8.0	.1
08670 HI	143.3	5.62	109.0	6.4	4.0	2.4	1.67	9.9	7.5	.1
08671 HI	142.5	5.85	106.4	6.8	4.2	2.6	1.62	10.6	8.0	.1
MEAN	144.6	5.91	107.8	6.7	4.2	2.5	1.67	10.4	8.3	.1
S.D.	2.69	.477	1.89	.36	.26	.17	.123	.36	1.02	.07

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APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 3	DOSE LEVEL: 200 DOSAGE UNIT: MG/KG									
08702 HI	144.5	6.44	109.5	6.5	4.2	2.3	1.83	9.8	9.8	.0
08703 HI	147.9	6.90	108.4	7.1	4.3	2.8	1.54	11.1	9.2	.1
08704 HI	146.2	7.11	107.2	6.7	3.9	2.8	1.39	10.6	9.8	.0
08706	143.4	5.82	107.9	7.1	4.2	2.9	1.45	10.1	8.4	.0
08707 H2	145.2	5.85	109.8	6.6	4.4	2.2	2.00	10.4	9.9	.0
08708	146.4	6.25	108.2	6.7	3.9	2.8	1.39	10.4	7.4	.1
08709 HI	144.0	5.59	110.0	6.2	3.7	2.5	1.48	9.0	8.2	.1
08710 HI	146.6	6.51	108.5	7.1	4.4	2.7	1.63	10.6	8.2	.2
08711 HI	143.1	6.85	106.8	7.1	4.4	2.7	1.63	10.7	9.2	.1
08712 HI	143.0	6.19	106.6	6.8	4.1	2.7	1.52	10.5	9.1	.1
MEAN	145.0	6.35	108.3	6.8	4.1	2.6	1.59	10.3	8.9	.1
S.D.	1.69	.506	1.21	.31	.25	.23	.197	.58	.84	.07
GROUP: 4	DOSE LEVEL: 800 DOSAGE UNIT: MG/KG									
08742	140.2	5.36	106.4	6.5	4.1	2.4	1.71	10.1	8.3	.1
08743 HI, SL	141.6	5.76	103.0	6.6	2.8	3.8	.74	11.8	11.6	.2
08744 HI	147.6	6.32	109.5	7.0	4.4	2.6	1.69	11.3	10.5	.0
08745	142.2	5.68	103.8	6.9	4.4	2.5	1.76	10.7	8.5	.1
08746 HI	145.0	5.81	109.3	6.7	4.1	2.6	1.58	10.4	10.9	.0
08747 HI	142.9	5.49	108.2	6.4	4.3	2.1	2.05	10.1	8.5	.0
08748	146.5	7.29	109.8	7.8	4.4	2.6	1.69	10.7	9.7	.1
08749 HI	145.1	7.09	107.2	7.5	4.7	2.8	1.68	11.2	9.4	.1
08750 HI	147.7	6.77	111.5	6.6	4.3	2.3	1.87	10.8	10.8	.1
08751 HI	143.9	6.48	106.9	6.8	4.3	2.5	1.72	10.7	8.6	.1
MEAN	144.3	6.20	107.6	6.8	4.2	2.6	1.65	10.8	9.7	.1
S.D.	2.56	.685	2.68	.32	.51	.46	.344	.53	1.20	.06

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APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 1	DOSE LEVEL: 0	DOSAGE UNIT: MG/KG						
08622 HI	16	.7	91	86	98	29	87	586
08623	15	.7	111	88	85	25	84	227
08624 HI,SL	25	.5	82	316	56	26	54	347
08625 HI	22	.5	81	79	85	31	70	587
08626	18	.7	89	82	79	27	53	530
08627	19	.7	94	72	103	30	94	852
08628 HI,SL	19	.5	72	418	50	30	32	407
08629	13	.6	92	105	84	26	91	624
08630 HI	15	.6	95	92	90	28	88	370
08631 HI	13	.7	102	91	97	26	88	503
MEAN	18	.6	91	142	83	28	74	503
S.D.	3.9	.09	11.0	118.8	17.4	2.1	21.0	175.9
GROUP: 2	DOSE LEVEL: 100	DOSAGE UNIT: MG/KG						
08662 HI	16	.7	89	89	102	29	150	635
08663	17	.8	116	86	124	31	129	785
08664 HI	14	.6	97	106	82	21	67	753
08665 HI	21	.6	102	86	104	27	124	829
08666 HI	13	.7	77	76	93	30	78	407
08667	13	.6	101	104	89	20	92	799
08668	10	.6	86	80	97	22	128	828
08669	11	.6	91	96	95	36	99	440
08670 HI	15	.6	89	72	70	17	63	499
08671 HI	14	.6	117	103	98	29	120	455
MEAN	14	.6	97	90	95	26	105	643
S.D.	3.1	.07	12.8	12.1	14.3	5.9	29.5	175.9



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APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 3	DOSE LEVEL: 200			DOSAGE UNIT: MG/KG				
08702 HI	15	.6	85	86	114	37	125	613
08703 HI	14	.7	76	103	110	39	101	530
08704 HI	15	.6	86	134	92	32	98	626
08706	14	.7	71	101	89	30	161	531
08707 H2	16	.6	83	81	94	26	97	712
08708	12	.6	92	87	97	28	176	567
08709 HI	10	.7	84	91	114	21	102	1210
08710 HI	10	.6	94	112	87	25	90	413
08711 HI	10	.6	87	83	90	27	70	624
08712 HI	23	.6	75	118	101	26	76	1070
MEAN	14	.6	83	100	99	29	110	690
S.D.	3.9	.05	7.4	17.4	10.4	5.5	34.6	252.2
GROUP: 4	DOSE LEVEL: 800			DOSAGE UNIT: MG/KG				
08742	12	.6	115	108	66	24	86	344
08743 HI, SL	38	1.3	83	526	58	32	46	281
08744 HI	17	.6	83	119	85	36	86	265
08745	18	.6	114	126	87	39	146	546
08746 HI	14	.7	55	121	113	35	124	469
08747 HI	12	.6	97	119	83	26	89	816
08748	14	.5	80	118	137	40	192	740
08749 HI	12	.6	94	111	93	43	99	443
08750 HI	15	.7	66	104	97	34	65	465
08751 HI	12	.6	97	124	85	39	109	389
MEAN	16	.7	88	158	90	35	104	476
S.D.	7.9	.23	19.1	129.6	22.4	6.1	41.8	182.3

APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 1	DOSE LEVEL: 0      DOSAGE UNIT: MG/KG									
08622	148.2	5.90	106.0	6.5	4.2	2.3	1.83	10.4	7.2	.1
08623	146.1	5.72	105.3	6.7	4.3	2.4	1.79	10.2	5.9	.0
08624	153.1	5.64	109.6	6.6	2.9	3.7	.78	10.9	8.1	.2
08625	147.5	5.64	103.7	6.8	4.6	2.2	2.09	11.0	6.5	.0
08626	145.7	5.92	104.4	7.4	4.9	2.5	1.96	10.7	5.8	.1
08627 H1	147.6	5.43	106.2	6.7	4.4	2.3	1.91	10.1	4.9	.1
08628 H2	144.6	5.43	105.8	6.3	2.6	3.7	.70	10.9	7.0	.1
08629	144.5	6.19	104.2	7.3	4.6	2.7	1.70	11.1	7.7	.1
08630	145.1	5.94	104.2	6.9	4.5	2.4	1.88	11.1	7.1	.2
08631	146.1	6.10	108.5	6.5	3.7	2.8	1.32	10.3	7.4	.0
MEAN	146.9	5.79	105.8	6.8	4.1	2.7	1.60	10.7	6.8	.1
S.D.	2.54	.262	1.93	.35	.77	.56	.495	.39	.98	.07
GROUP: 2	DOSE LEVEL: 100      DOSAGE UNIT: MG/KG									
08662	145.5	5.62	106.5	6.9	4.7	2.2	2.14	10.7	6.6	.1
08664	148.5	6.31	104.2	7.4	4.7	2.7	1.74	11.3	6.7	.1
08665	148.9	5.80	104.2	7.4	4.6	2.8	1.64	11.1	5.5	.1
08666 H1	146.9	5.44	106.2	7.0	4.4	2.6	1.69	10.4	4.4	.0
08667 H1	147.1	6.04	102.7	7.5	4.7	2.8	1.68	11.0	6.1	.1
08668	149.0	5.93	104.9	6.7	4.2	2.5	1.68	10.9	7.3	.0
08669	147.7	6.10	103.4	7.3	4.7	2.6	1.81	10.7	6.3	.0
08670 H1	148.6	6.26	103.9	7.0	4.3	2.7	1.59	10.6	7.5	.1
08671	144.9	5.99	109.6	6.8	4.1	2.7	1.92	10.7	7.3	.0
08672	145.5	5.52	105.3	6.6	4.0	2.6	1.54	11.0	7.7	.0
MEAN	147.3	5.90	105.1	7.1	4.4	2.6	1.70	10.8	6.5	.0
S.D.	1.53	.300	1.98	.32	.28	.18	.177	.27	1.02	.05

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WEEK: 013

FEMALES

RAT

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WEEK: 013

FEMALES

RAT

APPENDIX 7

INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	SODIUM MMOL/L	POTAS MMOL/L	CHLORIDE MMOL/L	T PROT G/DL	ALBUMIN G/DL	GLOBULIN G/DL	A/G RATIO	CALCIUM MG/DL	IN PHOS MG/DL	T BILI MG/DL
GROUP: 3	DOSE LEVEL: 200									
08702	145.2	5.49	107.6	6.7	4.5	2.2	2.05	10.5	7.1	.0
08703	146.3	6.48	107.4	6.8	4.2	2.6	1.62	11.0	7.8	.1
08704	145.6	6.50	106.0	7.2	4.3	2.9	1.48	11.1	6.1	.1
08707 HI	146.0	5.37	107.2	6.4	4.2	2.2	1.91	10.4	7.6	.0
08708	148.9	5.99	105.8	7.0	4.1	2.9	1.41	10.8	6.9	.0
08709	148.8	5.84	107.8	6.8	4.1	2.7	1.52	10.3	6.6	.1
08710	148.2	5.46	103.4	7.3	4.5	2.8	1.61	10.6	6.8	.0
08711	150.4	6.52	105.6	7.5	4.7	2.8	1.68	10.9	8.0	.1
08712	148.1	6.22	102.9	7.2	4.6	2.6	1.77	11.4	7.0	.2
08713	148.0	5.85	108.3	6.9	4.2	2.7	1.56	10.8	6.6	.0
MEAN	147.5	5.97	106.2	7.0	4.3	2.6	1.66	10.8	7.1	.1
S.D.	1.69	.446	1.85	.33	.22	.25	.199	.34	.59	.07
GROUP: 4	DOSE LEVEL: 800									
08742	145.6	5.99	103.9	6.4	4.2	2.2	1.91	10.6	6.6	.0
08744	146.1	5.91	101.2	6.9	4.4	2.5	1.76	10.6	6.8	.0
08746	146.4	6.23	103.9	7.0	4.4	2.6	1.69	11.0	6.7	.1
08747	145.3	5.67	108.1	6.9	4.5	2.4	1.88	10.5	8.0	.0
08748 HI	146.7	5.89	110.8	6.9	4.3	2.6	1.65	10.9	7.9	.0
08749	147.4	5.94	104.6	6.8	4.3	2.5	1.72	10.7	7.1	.1
08750	147.9	6.04	106.9	6.7	4.2	2.5	1.68	10.4	7.0	.0
08751 HI	151.6	6.21	106.0	6.9	4.3	2.6	1.65	11.2	6.5	.0
08752	148.1	5.80	105.5	6.3	4.0	2.3	1.74	11.1	7.4	.0
08753	150.1	5.75	112.1	6.6	3.9	2.7	1.44	11.2	7.4	.0
MEAN	147.5	5.94	106.3	6.7	4.2	2.5	1.71	10.8	7.1	.0
S.D.	2.01	.183	3.31	.24	.18	.15	.131	.30	.53	.04

S2399110

RAT

FEMALES

WEEK: 013

PAGE: 1

APPENDIX 7  
INDIVIDUAL CLINICAL CHEMISTRY VALUES  
SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	HUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 1		DOSE LEVEL: 0						
DOSAGE UNIT: MG/KG								
08622	16	.6	111	60	56	18	41	268
08623	11	.6	115	86	50	22	35	87
08624	45	1.1	77	456	40	21	37	114
08625	15	.6	99	86	51	34	37	57
08626	15	.7	118	75	43	23	37	71
08627 H1	15	.7	98	81	54	18	44	173
08628 H2	31	.8	86	520	43	22	20	112
08629	12	.7	98	96	77	39	56	364
08630	15	.6	104	89	46	22	41	88
08631	7	.6	126	89	64	19	45	260
MEAN	18	.7	103	164	52	24	39	159
S.D.	11.3	.16	14.9	171.8	11.2	7.0	9.1	103.8
GROUP: 2		DOSE LEVEL: 100						
DOSAGE UNIT: MG/KG								
08662	17	.6	110	98	57	23	64	106
08664	12	.6	100	104	46	22	49	79
08665	13	.8	99	85	71	22	58	145
08666 H1	15	.7	109	81	57	29	32	76
08667 H1	14	.6	110	114	58	53	76	92
08668	14	.7	100	90	47	20	55	63
08669	10	.6	98	89	45	18	44	166
08670 H1	13	.6	94	79	50	18	35	97
08671	10	.7	155	105	60	22	81	146
08672	11	.7	122	72	62	28	41	150
MEAN	13	.7	110	92	55	26	53	112
S.D.	2.2	.07	17.9	13.3	8.3	10.3	16.4	36.6

S2399110

RAT

FEMALES

WEEK: 013

PAGE: 2

# APPENDIX 7

## INDIVIDUAL CLINICAL CHEMISTRY VALUES SUBCHRONIC TOXICITY STUDY IN RATS

ANIMAL NUMBER	BUN MG/DL	CREAT MG/DL	GLUCOSE MG/DL	T CHOL MG/DL	AST U/L	ALT U/L	ALK P U/L	LDH U/L
GROUP: 3	DOSE LEVEL: 200							
	DOSAGE UNIT: MG/KG							
08702	10	.6	137	87	61	27	68	138
08703	13	.6	126	83	64	25	49	217
08704	14	.8	152	112	97	37	52	353
08707 HI	14	.5	119	84	67	23	44	414
08708	14	.6	100	75	54	29	74	49
08709	12	.6	116	103	57	18	83	174
08710	11	.6	111	96	45	16	41	87
08711	12	.7	97	68	57	20	42	145
08712	10	.6	88	111	63	24	29	261
08713	8	.7	128	68	51	20	41	89
MEAN	12	.6	117	89	62	24	52	193
S.D.	2.0	.08	19.4	16.3	14.1	6.1	17.1	119.3
GROUP: 4	DOSE LEVEL: 800							
	DOSAGE UNIT: MG/KG							
08742	11	.7	115	97	49	23	31	44
08744	15	.6	110	99	54	36	34	82
08746	14	.7	90	110	56	32	80	86
08747	14	.5	117	87	62	21	51	354
08748 HI	17	.6	128	97	59	31	72	141
08749	7	.6	101	91	53	25	43	66
08750	11	.7	95	109	50	24	30	64
08751 HI	9	.7	90	138	51	26	25	80
08752	8	.7	99	134	57	28	44	265
08753	10	.6	131	99	47	31	42	67
MEAN	12	.6	108	106	54	28	45	125
S.D.	3.3	.07	14.9	17.3	4.7	4.7	18.1	102.6



**HAZLETON**

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1330 - 8 PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

HLA 2399-110

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## APPENDIX 8

### Individual Animal Summary Report

Note: Due to computer limitations, organ-to-brain-weight ratios are presented in this appendix, even though they were not required by protocol. These data were not evaluated and will not be referred to in the text of the report.

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08602      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 487.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 8:46      PROSECTOR: DOUGLAS HERNDON      RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.065	.0133 %	.0290	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.24	.459 %	1.000	WEIGHT TAKEN
HEART (HT)	1.50	.307 %	.669	WEIGHT TAKEN
SPLEEN (SP)	.58	.119 %	.260	WEIGHT TAKEN
KIDNEY (KD)	3.28	.673 %	1.467	WEIGHT TAKEN
LIVER (LI)	10.46	2.146 %	4.675	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.15	1.056 %	2.301	WEIGHT TAKEN

P A T H O L O G Y      O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT):  
-INFLAMMATION, SUBACUTE,-SLIGHT  
KIDNEY (KD):  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LACRIMAL GL, EXO (EO):  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-DEGENERATION,-MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-MODERATE  
PARATHYROID (PT):  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PROSTATE (PR):  
-LUMEN, DEBRIS, CELLULAR,-SLIGHT  
-INFLAMMATION, SUBACUTE,-MINIMAL

APPENDIX B

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08602 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 487.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 8:46 PROSECTOR: DOUGLAS HERNDON REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SU), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808603  
 SEX: MALE  
 DOSE GROUP: 1  
 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
 DATE OF DEATH: 07/21/86  
 STUDY WEEK OF DEATH: 14  
 TERMINAL BODY WEIGHT: 508.0 GRAMS  
 DATE AND TIME OF NECROPSY: 07/21/86 10:40  
 PROSECTOR: DOUGLAS HERNDON  
 RECORDER: TIM GROVE  
 POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
 PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
 WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.058	.0115 %	.0260	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.25	.443 %	1.000	WEIGHT TAKEN
HEART (HT)	1.63	.321 %	.726	WEIGHT TAKEN
SPLEEN (SP)	1.28	.251 %	.568	WEIGHT TAKEN
KIDNEY (KD)	3.62	.712 %	1.609	WEIGHT TAKEN
LIVER (LI)	13.88	2.732 %	6.174	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.94	1.169 %	2.641	WEIGHT TAKEN

CLINICAL OBSERVATIONS

APPEARED NORMAL

GENERAL INFORMATION (XX):

>NOTE: >EXTERNAL OBSERVATIONS: NONE

HISTOPATHOLOGY

EYE (EY):

- OPTIC NERVE, FOCAL DEGENERATION, -SLIGHT

KIDNEY (KD):

- FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

LACRIMAL GL, EXO (EO):

- INFLAMMATION, SUBACUTE, -SLIGHT

LIVER (LI):

- PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

LUNG (LU):

- PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL
- INTRA-ALVEOLAR MACROPHAGES, -SLIGHT

MAMMARY GLAND (MG):

- >SECTION EXAMINED; TISSUE NOT PRESENT

MAND SALIVARY GL (SG):

- FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

PROSTATE (PR):

- LUMEN, DEBRIS, CELLULAR, -MINIMAL
- INFLAMMATION, SUBACUTE, -SLIGHT

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808603 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 508.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:40 PROSECTOR: DOUGLAS HERNDON REORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHTER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI),  
RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08604      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 531.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:55      PROSECTOR: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      RECORDER: TIM GROVE  
WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.076	.0142 %	.0336	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.25	.423 %	1.000	WEIGHT TAKEN
HEART (HT)	1.40	.264 %	.624	WEIGHT TAKEN
SPLEEN (SP)	.88	.166 %	.393	WEIGHT TAKEN
KIDNEY (KO)	2.97	.558 %	1.318	WEIGHT TAKEN
LIVER (LI)	13.11	2.466 %	5.825	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.73	1.077 %	2.544	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS:NONE

EPIDIDYMS (EP):

-FOCAL MONONUCLEAR CELL INFILTRATE, MINIMAL

HEART (HT):

-INFLAMMATION, SUBACUTE, -MINIMAL

KIDNEY (KO):

-TUBULE, REGENERATION, -MINIMAL

-FOCAL MONONUCLEAR CELL INFILTRATE, MINIMAL

-TUBULE, MINERALIZATION, -MINIMAL

LIVER (LI):

-PORTAL MONONUCLEAR CELL INFILTRATE, MINIMAL

-INFLAMMATION, SUBACUTE, -SLIGHT

LUNG (LU):

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -SLIGHT

MAMMARY GLAND (MG):

>SECTION EXAMINED; TISSUE NOT PRESENT

PARATHYROID (PT):

-UNILATERALLY EXAMINED, -PRESENT

PROSTATE (PR):

-LUMEN, DEBRIS, CELLULAR, -MODERATE

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08604  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 11:55  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 96  
PROSECTOR: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 531.7 GRAMS  
RECORDER: TIM GROVE  
WEIGHER: KIM LINCOLN

P A T H O L O G Y   O B S E R V A T I O N S   (CONTINUED)

NECROPSY

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

PROSTATE (PR) :  
- INFLAMMATION, SUBACUTE, -MODERATELY SEVERE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (ED), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (ED), LN, MESENTERIC (MS),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA),  
PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08605  
DATE OF DEATH: 07/17/86  
DATE AND TIME OF NECROPSY: 07/17/86 11:45  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 92  
PROSECTOR: TIM GROVE  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 1  
SACRIFICE STATUS: UNSCHEDULED (M)  
TERMINAL BODY WEIGHT: 418.6 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-EAR TAG MISSING

P A T H O L O G Y    O B S E R V A T I O N S  
NECROPSY

CECUM (CE) :  
-LUMEN, GAS  
-DISTENDED;  
COLON (CO) :  
-LUMEN, GAS  
DUODENUM (DU) :  
-LUMEN, GAS  
ILEUM (IL) :  
-LUMEN, GAS  
JEJUNUM (JE) :  
-LUMEN, GAS  
LIVER (LI) :  
-PALE; ALL LOBES  
NASAL TURBINATE (NT) :  
-FRACTURE; ANTERIOR TO HARD PALATE  
STOMACH, NONGL (SU) :  
-LUMEN, GAS  
-DISTENDED; SLIGHTLY  
GENERAL INFORMATION (XX) :  
>NOTE:>REASON FOR SACRIFICE AND  
EXTERNAL  
OBSERVATIONS: MALOCCLUSION,  
DYSPNEA, ROUGH HAIRCOAT, BOTH  
EYES-CHROMODACRYORRHEA, ENTIRE  
BODY-THIN, LANGUID

MODERATELY

HISTOPATHOLOGY

CECUM (CE) :  
>UNREMARKABLE  
COLON (CO) :  
>UNREMARKABLE  
DUODENUM (DU) :  
>UNREMARKABLE  
HEART (HT) :  
-INFLAMMATION, SUBACUTE, -MODERATE  
ILEUM (IL) :  
>UNREMARKABLE  
JEJUNUM (JE) :  
>UNREMARKABLE  
LIVER (LI) :  
-FATTY CHANGE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL  
NASAL TURBINATE (NT) :  
-HEMORRHAGE, -PRESENT  
-GRANULATION TISSUE, -PRESENT  
PARATHYROID (PT) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
STOMACH, NONGL (SU) :  
>UNREMARKABLE  
THYMUS (TH) :  
-ATROPHY, -MODERATE  
URINARY BLADDER (UB) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
SLIGHT

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08605 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: UNSCHEDULED (M)  
DATE OF DEATH: 07/17/86 STUDY DAY OF DEATH: 92 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 418.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/17/86 11:45 PROSECTOR: TIM GROVE RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), EPIDIDYMIS (EP), ESOPHAGUS (ES),  
EYE (EY), HEART (HT), KIDNEY (KD), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), TESTIS (TE), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), EPIDIDYMIS (EP), ESOPHAGUS (ES),  
EYE (EY), KIDNEY (KD), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), PROSTATE (PR),  
RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), TESTIS (TE), THYROID (TY), TRACHEA (TR)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08606 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
 DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 440.2 GRAMS  
 DATE AND TIME OF NECROPSY: 07/21/86 13:30 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
 POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.065	.0147 %	.0290	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.24	.509 %	1.000	WEIGHT TAKEN
HEART (HT)	1.14	.259 %	.509	WEIGHT TAKEN
SPLEEN (SP)	.84	.191 %	.375	WEIGHT TAKEN
KIDNEY (KD)	2.98	.676 %	1.329	WEIGHT TAKEN
LIVER (LI)	9.92	2.254 %	4.430	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.25	1.193 %	2.346	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-MALOCCLUSION

NECROPSY

LIVER (LI):  
 -H-DARK AREA; MEDIAN LOBE, ONE, 1 X 1 CM, DARK RED  
 GENERAL INFORMATION (XX):  
 >NOTE:>EXTERNAL OBSERVATIONS:NONE.  
 (MALOCCLUSION, NOT RECOGNIZED AT NECROPSY)

HISTOPATHOLOGY

ADRENAL, CORTEX (AC):  
 -HYPERTROPHY,-SLIGHT EPIDIDYMIS (EP):  
 -FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
 LIVER (LI):  
 -PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
 LUNG (LU):  
 -INFLAMMATION, SUBACUTE,-MINIMAL  
 -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
 PROSTATE (PR):  
 -LUMEN, DEBRIS, CELLULAR,-MINIMAL  
 -INFLAMMATION, SUBACUTE,-MODERATE

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08606      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      TERMINAL BODY WEIGHT: 440.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:30      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), \*COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08607 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 445.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:12 PROSECTOR: DOUGLAS HERNDON REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEAHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.051	.0114 %	.0230	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.21	.495 %	1.000	WEIGHT TAKEN
HEART (HT)	1.27	.284 %	.574	WEIGHT TAKEN
SPLEEN (SP)	.75	.169 %	.341	WEIGHT TAKEN
KIDNEY (KD)	2.92	.654 %	1.321	WEIGHT TAKEN
LIVER (LI)	11.44	2.565 %	5.179	WEIGHT TAKEN
TESTIS/EPIDID (TP)	6.43	1.443 %	2.912	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-RIGHT EYE-OPAQUE

PATHOLOGY OBSERVATIONS

NECROPSY

EYE (EY) :  
-EXTERNAL, OPAQUE; RIGHT  
KIDNEY (KD) :  
-PELVIS, DILATED; RIGHT, MODERATELY  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:RIGHT EYE-OPAQUE

HISTOPATHOLOGY

ADRENAL, CORTEX (AC) :  
-FOCAL FATTY CHANGE,-MINIMAL  
EPIDIDYMIS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-SLIGHT  
EYE (EY) :  
-LENS, DEGENERATION,-PRESENT  
-RETINA, DEGENERATION,-PRESENT  
-SYNECHIA, POSTERIOR,-PRESENT  
HEART (HT) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
KIDNEY (KD) :  
-PELVIS, DILATATION,-MODERATE  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
PANCREAS (PA) :  
-INDIVIDUAL CELL DEGENERATION/NECROSIS,-MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808607 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 449.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:12 PROSECTOR: DOUGLAS HERNDON RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHER: DOUGLAS HERNDON

P A T H O L O G Y O B S E R V A T I O N S (CONTINUED)

CLINICAL OBSERVATIONS

NECROPSY

HISTOPATHOLOGY

PARATHYROID (PT) :

-UNILATERALLY EXAMINED, -PRESENT

PROSTATE (PR) :

-LUMEN, DEBRIS, CELLULAR, -MINIMAL

THYMUS (TH) :

-EPITHELIAL EMBRYONIC REST, -PRESENT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), ILEUM (IL),  
JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV),  
SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

## INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

RECORDER: TIM GROVE  
WEIGHER: LINDA RUMBLE

# PATHOLOGY OBSERVATIONS

## -RIGHT EYE-OPAQUE

**EYE (EY) :**

-EXTERNAL, OPAQUE; RIGHT

URINARY BLADDER (UB) :

-H-LUMEN, CALCULUS; ONE, 5 X 3 X 1 MM,  
YELLOW

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:RIGHT EYE-  
OPAQUE

## HISTOPATHOLOGY

EPIDIDYMS (EP) :

-FOCAL MONONUCLEAR CELL INFILTRATE -

## MINIMAL

EYE (EY) :

-KERATITIS, -MODERATELY SEVERE

HEART (HT) :

- INFLAMMATION, SUBACUTE, -MINIMAL

**LIVER (LI) :**

-PORTAL MONONUCLEAR CELL INFILTRATE.-

## MINIMAL

**-INFLAMMATION, SUBACUTE, -SLIGHT**

**-FATTY CHANGE, -MINIMAL**

**LUNG (LU) :**

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID, -MINIMAL

- INTRA-ALVEOLAR MACROPHAGES, -SLIGHT

MAMMARY GLAND (MG) :

>SECTION EXAMINED; TISSUE NOT PRESENT

PANCREAS (PA) :

-ACUTE HEN

**MODERATE**

PROSTATE (PR) :

-LUMEN, OFARIS, CELLULAR, -MINIMAL

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08608 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 505.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:22 PROSECTOR: LINDA RUMBLE RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: LINDA RUMBLE

P A T H O L O G Y O B S E R V A T I O N S (CONTINUED)

CLINICAL OBSERVATIONS

HISTOPATHOLOGY

PROSTATE (PR) :

-INFLAMMATION, SUBACUTE, MINIMAL  
URINARY BLADDER (UB) :  
-CALCULUS, -PRESENT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (XW), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PARATHYROID (PT),  
PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08609 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 521.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:09 PROSECTOR: DOUGLAS HERNOON  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-MODERATE  
-INFLAMMATION, SUBACUTE,-SLIGHT

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08609 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 521.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:09 PROSECTOR: DOUGLAS HERNDON RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08610

SEX: MALE

DOSE GROUP: 1

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/22/86

STUDY DAY OF DEATH: 97

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 453.1 GRAMS

DATE AND TIME OF NECROPSY: 07/22/86 11:18

PROSECTOR: DOUGLAS HERNDON

REORDER: TIM GROVE

POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

PATHOLOGIST: RICARDO QUANDER, DUM, DACUP

WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.060	.0133 %	.0268	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.25	.496 %	1.000	WEIGHT TAKEN
HEART (HT)	1.51	.332 %	.670	WEIGHT TAKEN
SPLEEN (SP)	.84	.186 %	.375	WEIGHT TAKEN
KIDNEY (KD)	2.69	.594 %	1.197	WEIGHT TAKEN
LIVER (LI)	10.46	2.309 %	4.655	WEIGHT TAKEN
TESTIS/EPIDID (TP)	6.02	1.329 %	2.680	WEIGHT TAKEN

CLINICAL OBSERVATIONS	PATHOLOGY OBSERVATIONS	HISTOPATHOLOGY
APPEARED NORMAL	GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	EPIDIDYMIS (EP) : -FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL KIDNEY (KD) : -TUBULE, REGENERATION, -MINIMAL -FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL LACRIMAL GL, EXO (EO) : -INFLAMMATION, SUBACUTE, -MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL -INFLAMMATION, SUBACUTE, -SLIGHT LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL PANCREAS (PA) : -INDIVIDUAL CELL DEGENERATION/NECROSIS, -MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B086610 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 453.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 11:18 PROSECTOR: DOUGLAS HERNDON  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SU), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



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APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 191

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08611      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 601.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:37      PROSECTOR: DOUGLAS HERNDON  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT  
SEMINAL VESICLE (SV) :  
-LUMEN, DEBRITS, CELLULAR,-SLIGHT

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08611 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 601.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:37 PROSECTOR: DOUGLAS HERNDON RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PANCREAS (PA), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08612 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 526.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:31 PROSECTOR: KIM LINCOLN RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEAHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.072	.0137 %	.0305	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.36	.448 %	1.000	WEIGHT TAKEN
HEART (HT)	1.48	.281 %	.628	WEIGHT TAKEN
SPLEEN (SP)	.83	.158 %	.353	WEIGHT TAKEN
KIDNEY (KD)	3.61	.685 %	1.529	WEIGHT TAKEN
LIVER (LI)	13.98	2.656 %	5.929	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.71	1.085 %	2.421	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

NECROPSY

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

-APPEARED NORMAL  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

EPIDIDYMS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-FATTY CHANGE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED, -PRESENT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR, -MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808612      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 526.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:31      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: KIM LINCOLN

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08613      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 528.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:50      PROSECTOR: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

HISTOPATHOLOGY

KIDNEY (KD) :  
-H-PELVIS, DILATED; RIGHT, MODERATELY.  
^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HEART (HT) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-FIBROSIS,-MODERATE

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-PELVIS, DILATATION,-SLIGHT  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-DEGENERATION,-MINIMAL  
-UNILATERALLY EXAMINED,-PRESENT

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL

LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT

PARATHYROID (PT) :  
>SECTION EXAMINED; TISSUE NOT PRESENT

PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08613      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 528.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:50      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA),  
PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08614  
DATE OF DEATH: 07/23/86  
DATE AND TIME OF NECROPSY: 07/23/86 8:34  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 98  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 553.5 GRAMS  
REORDER: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	
^COLLECTED/TAKEN (XW) : -ELECTRON MICROSCOPY SAMPLE; LIVER GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	KIDNEY (KO) : -TUBULE, REGENERATION,-MINIMAL -FOCAL MONONUCLEAR CELL INFILTRATE,- MINIMAL LACRIMAL GL, EXO (EO) : -INFLAMMATION, SUBACUTE,-MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL -INFLAMMATION, SUBACUTE,-SLIGHT LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08614 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 553.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:34 PROSECTOR: BARBARA DAY RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08615      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 406.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 14:03      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.060	.0149 %	.0278	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.17	.535 %	1.000	WEIGHT TAKEN
HEART (HT)	1.31	.322 %	.603	WEIGHT TAKEN
SPLEEN (SP)	.85	.210 %	.392	WEIGHT TAKEN
KIDNEY (KD)	2.96	.729 %	1.363	WEIGHT TAKEN
LIVER (LI)	9.87	2.431 %	4.545	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.35	1.317 %	2.462	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-COAGULATIVE NECROSIS,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
PANCREAS (PA) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
URINARY BLADDER (UB) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

APPENDIX B

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808615      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 406.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 14:03      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08616      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 531.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:14      PROSECTOR: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.064	.0120 %	.0308	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.08	.392 %	1.000	WEIGHT TAKEN
HEART (HT)	1.33	.250 %	.639	WEIGHT TAKEN
SPLEEN (SP)	.78	.147 %	.375	WEIGHT TAKEN
KIDNEY (KD)	3.49	.657 %	1.678	WEIGHT TAKEN
LIVER (LI)	13.90	2.617 %	6.693	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.67	1.067 %	2.726	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIDIDYMS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
HEART (HT) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
KIDNEY (KD) :  
-TUBULE, REGENERATION, -MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LUNG (LU) :  
-INFLAMMATION, SUBACUTE, -SLIGHT  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL  
PANCREAS (PA) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED, -PRESENT

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808616 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 531.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:14 PROSECTOR: BARBARA DAY RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: BARBARA DAY

P A T H O L O G Y O B S E R V A T I O N S (CONTINUED)  
NECROPSY

CLINICAL OBSERVATIONS

HISTOPATHOLOGY

PROSTATE (PR):  
-LUMEN, DEBRIS, CELLULAR, SLIGHT  
-INFLAMMATION, SUBACUTE, SLIGHT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PITUITARY (PI), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08617

SEX: MALE

DOSE GROUP: 1

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/23/86

STUDY DAY OF DEATH: 98

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 631.3 GRAMS

DATE AND TIME OF NECROPSY: 07/23/86 9:34

PROSECTOR: DOUGLAS HERNDON

REORDER: KIM LINCOLN

WEIGHER: DOUGLAS HERNDON

POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.070	.0111 %	.0307	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.28	.361 %	1.000	WEIGHT TAKEN
HEART (HT)	2.08	.329 %	.912	WEIGHT TAKEN
SPLEEN (SP)	1.23	.195 %	.539	WEIGHT TAKEN
KIDNEY (KO)	4.33	.686 %	1.899	WEIGHT TAKEN
LIVER (LI)	17.89	2.834 %	7.846	WEIGHT TAKEN
TESTIS/EPIDID (TP)	6.42	1.017 %	2.816	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT) :

-INFLAMMATION, SUBACUTE,-SLIGHT

KIDNEY (KO) :

-TUBULE, REGENERATION,-MINIMAL

-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

LACRIMAL GL, EXO (EO) :

-INFLAMMATION, SUBACUTE,-SLIGHT

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

-FATTY CHANGE,-MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

PANCREAS (PA) :

-INFLAMMATION, SUBACUTE,-SLIGHT

PARATHYROID (PT) :

-UNILATERALLY EXAMINED,-PRESENT

PROSTATE (PR) :

-LUMEN, DEBRIS, CELLULAR,-MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08617 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 631.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:34 PROSECTOR: DOUGLAS HERNDON REORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XM)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08618  
SEX: MALE  
DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 507.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:40  
PROSECTOR: TIM GROVE  
REORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.068	.0134 %	.0332	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.05	.404 %	1.000	WEIGHT TAKEN
HEART (HT)	1.49	.293 %	.727	WEIGHT TAKEN
SPLEEN (SP)	.93	.183 %	.454	WEIGHT TAKEN
KIDNEY (KD)	3.42	.674 %	1.668	WEIGHT TAKEN
LIVER (LI)	16.57	3.264 %	8.083	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.08	1.001 %	2.478	WEIGHT TAKEN

CLINICAL OBSERVATIONS  
P A T H O L O G Y    O B S E R V A T I O N S  
NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

EPIDIDYMIS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
HEART (HT) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-SLIGHT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08618      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 507.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:40      PROSECTOR: TIM GROVE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: TIM GROVE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SU), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08619  
SEX: MALE  
DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 454.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:52  
PROSECTOR: BARBARA DAY  
RECORDED: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT  
STOMACH, NONGL (SU) :  
-ACANTHOSIS,-MINIMAL

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08619 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 454.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:52 PROSECTOR: BARBARA DAY RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO),  
LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808620  
SEX: MALE  
DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 583.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 14:00  
PROSECTOR: TIM GROVE  
REORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.062	.0106 %	.0298	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.08	.357 %	1.000	WEIGHT TAKEN
HEART (HT)	1.68	.288 %	.808	WEIGHT TAKEN
SPLEEN (SP)	.94	.161 %	.452	WEIGHT TAKEN
KIDNEY (KO)	3.73	.640 %	1.793	WEIGHT TAKEN
LIVER (LI)	15.16	2.599 %	7.288	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.41	.928 %	2.601	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIDIDYMIS (EP) :

-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

HEART (HT) :

-INFLAMMATION, SUBACUTE, -SLIGHT

KIDNEY (KO) :

-TUBULE, REGENERATION, -MINIMAL

-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

-INTERSTITIUM, FIBROSIS, -MINIMAL

-CYST, -PRESENT

LACRIMAL GL, EXO (EO) :

-INFLAMMATION, SUBACUTE, -MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

-INFLAMMATION, SUBACUTE, -MINIMAL

-FATTY CHANGE, -SLIGHT

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID, -MINIMAL

-INTRA-ALVEOLAR MACROPHAGES, -MINIMAL

ANIMAL NUMBER: B08620      SEX: MALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 583.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 14:00      PROSECTOR: TIM GROVE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: TIM GROVE

P A T H O L O G Y      O B S E R V A T I O N S      (CONTINUED)  
NECROPSY

CLINICAL OBSERVATIONS      HISTOPATHOLOGY  
PARATHYROID (PT):  
-UNILATERALLY EXAMINED,-PRESENT  
PITUITARY (PI):  
-FOCAL VACUOLATION,-SLIGHT  
PROSTATE (PR):  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08621  
 DATE OF DEATH: 07/23/86  
 DATE AND TIME OF NECROPSY: 07/23/86 14:22  
 POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
 STUDY DAY OF DEATH: 98  
 PROSECTOR: PENNIE PAGE  
 PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

DOSE GROUP: 1  
 STUDY WEEK OF DEATH: 14  
 PROSECTOR: PENNIE PAGE  
 PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
 TERMINAL BODY WEIGHT: 644.4 GRAMS  
 REORDER: KIM LINCOLN  
 WEIGHER: PENNIE PAGE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.071	.0110 %	.0301	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.36	.366 %	1.000	WEIGHT TAKEN
HEART (HT)	2.15	.334 %	.911	WEIGHT TAKEN
SPLEEN (SP)	.94	.146 %	.398	WEIGHT TAKEN
KIDNEY (KD)	3.84	.596 %	1.627	WEIGHT TAKEN
LIVER (LI)	17.35	2.692 %	7.352	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.91	.917 %	2.504	WEIGHT TAKEN

CLINICAL OBSERVATIONS

APPEARED NORMAL

GENERAL INFORMATION (XX):  
 >NOTE:>EXTERNAL OBSERVATIONS:NONE

NECROPSY

HISTOPATHOLOGY

EPIDIDYMIS (EP):  
 -FOCAL MONONUCLEAR CELL INFILTRATE, - MINIMAL

KIDNEY (KD):  
 -TUBULE, REGENERATION, -MINIMAL  
 -FOCAL MONONUCLEAR CELL INFILTRATE, - MINIMAL

LIVER (LI):  
 -PORTAL MONONUCLEAR CELL INFILTRATE, - MINIMAL  
 -INFLAMMATION, SUBACUTE, -MINIMAL  
 -FATTY CHANGE, -SLIGHT

LUNG (LU):  
 -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL  
 -INTRA-ALVEOLAR MACROPHAGES, -MINIMAL

PARATHYROID (PT):  
 >SECTION EXAMINED; TISSUE NOT PRESENT

PROSTATE (PR):  
 -LUMEN, DEBRIS, CELLULAR, -MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08621 SEX: MALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 644.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 14:22 PROSECTOR: PENNIE PAGE RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: PENNIE PAGE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXD (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXD (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 213

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08642  
DATE OF DEATH: 07/18/86  
DATE AND TIME OF NECROPSY: 07/18/86 16:45  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY WEEK OF DEATH: 14  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 2

SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 552.5 GRAMS  
REORDER: BARBARA DAY  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

LUNG (LU) :  
-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, LIGHT TO DARK RED  
GENERAL INFORMATION (XX) :  
>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, MEDULLA (AM) :  
-UNILATERALLY EXAMINED,-PRESENT  
EPIDIDYIMIS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-HYALINE CAST,-MINIMAL  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-SLIGHT  
-INTRA-ALVEOLAR FOREIGN MATERIAL,-  
PRESENT  
-CONGESTION,-SLIGHT  
MAMMARY GLAND (MG) :  
>TISSUE MISSING  
PANCREAS (PA) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL  
SEMINAL VESICLE (SV) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08642      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: UNSCHEDULED (D)      TERMINAL BODY WEIGHT: 552.5 GRAMS  
DATE OF DEATH: 07/18/86      STUDY DAY OF DEATH: 14      RECORDED BY: BARBARA DAY  
DATE AND TIME OF NECROPSY: 07/18/86 16:45      PROSECTOR: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

P A T H O L O G Y   O B S E R V A T I O N S (CONTINUED)

CLINICAL OBSERVATIONS

HISTOPATHOLOGY

SKIN (SK) :  
> TISSUE MISSING

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PITUITARY (PI), RECTUM (RE), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 215

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08643

SEX: MALE

DOSE GROUP: 2

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/21/86

STUDY DAY OF DEATH: 96

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 477.1 GRAMS

DATE AND TIME OF NECROPSY: 07/21/86 9:01

PROSECTOR: BARBARA DAY

REORDER: TIM GROVE

POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERUICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08644      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 14      TERMINAL BODY WEIGHT: 556.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:12      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S		HISTOPATHOLOGY
CLINICAL OBSERVATIONS	NECROPSY	
-APPEARED NORMAL	^COLLECTED/TAKEN (XW) : -ELECTRON MICROSCOPY SAMPLE; LIVER GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	KIDNEY (KD) : -TUBULE, REGENERATION,-MINIMAL -FOCAL MONONUCLEAR CELL INFILTRATE,- MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL -INFLAMMATION, SUBACUTE,-SLIGHT LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-SLIGHT
THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY: ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)		

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08645  
SEX: MALE  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86  
STUDY DAY OF DEATH: 96  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 509.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:30  
PROSECTOR: DOUGLAS HERNDON  
RECORDED: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-RIGHT EYE-OPAQUE

EYE (EY) :  
-EXTERNAL, OPAQUE; RIGHT  
^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:RIGHT EYE-  
OPAQUE, IN CAPSULE

HISTOPATHOLOGY

EYE (EY) :  
-LENS, DEGENERATION,-PRESENT  
-RETINA, DEGENERATION,-PRESENT  
>NOTE:>RETINAL AND LENS DEGENERATION  
WERE UNILATERAL.  
KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-PNEUMONIA, INTERSTITIAL,-MODERATELY  
SEVERE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 218

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08645      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      TERMINAL BODY WEIGHT: 509.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:30      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 220

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08647 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 626.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:34 PROSECTOR: BARBARA DAY RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHT: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y O B S E R V A T I O N S  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808646      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 555.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:57      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FTX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

- APPEARED NORMAL

>COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-SLIGHT  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 440

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08756  
DATE OF DEATH: 07/18/86  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 93  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 4  
SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 218.6 GRAMS  
REORDER: BARBARA DAY  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-ENTIRE BODY-THIN; BOTH INGUINAL REGIONS-  
URINE STAINS

P A T H O L O G Y   O B S E R V A T I O N S

NECROPSY

LUNG (LU) :

-DARK; ALL LOBES, DARK RED

PITUITARY (PI) :

-DARK; DARK RED

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:ENTIRE BODY-THIN,  
BOTH INGUINAL REGIONS-URINE  
STAINS

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL

-HYALINE CAST,-MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

-CONGESTION,-MINIMAL

PANCREAS (PA) :

>UNREMARKABLE

>NOTE:>LARGE NUMBER OF CELLS UNDERGOING

KARYORHEXIS AND KARYOLYSIS

APPEAR SECONDARY TO POSTMORTEM

CHANGE.

PITUITARY (PI) :

>UNREMARKABLE

SPLEEN (SP) :

-PIGMENT, INCREASED,-SLIGHT

THYMUS (TH) :

>TISSUE MISSING

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08755 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 280.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 11:25 PROSECTOR: KIM LINCOLN RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: KIM LINCOLN

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808755  
 DATE OF DEATH: 07/22/86  
 POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
 STUDY DAY OF DEATH: 97  
 PROSECUTOR: KIM LINCOLN

DOSE GROUP: 4  
 STUDY WEEK OF DEATH: 14  
 PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
 TERMINAL BODY WEIGHT: 280.5 GRAMS  
 RECORDER: TIM GROVE  
 WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.078	.0279 %	.0391	WEIGHT TAKEN
OVARY (OV)	.108	.0384 %	.0538	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.00	.713 %	1.000	WEIGHT TAKEN
HEART (HT)	.92	.327 %	.458	WEIGHT TAKEN
SPLEEN (SP)	.60	.215 %	.302	WEIGHT TAKEN
KIDNEY (KD)	2.55	.908 %	1.273	WEIGHT TAKEN
LIVER (LI)	9.29	3.311 %	4.642	WEIGHT TAKEN

CLINICAL OBSERVATIONS

APPEARED NORMAL

NECROPSY

HISTOPATHOLOGY

GENERAL INFORMATION (XX) :  
 >NOTE:>EXTERNAL OBSERVATIONS:NONE

LIVER (LI) :  
 -PORTAL MONONUCLEAR CELL INFILTRATE,-  
 SLIGHT  
 -INFLAMMATION, SUBACUTE,-MINIMAL  
 -FATTY CHANGE,-MINIMAL  
 LUNG (LU) :  
 -PERIBRONCHIAL/PERIVASCULAR,  
 INFILTRATION, LYMPHOID,-MINIMAL  
 PARATHYROID (PT) :  
 -UNILATERALLY EXAMINED,-PRESENT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808754 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 04/20/86 STUDY DAY OF DEATH: 4 STUDY WEEK OF DEATH: 1 TERMINAL BODY WEIGHT: 180.3 GRAMS  
DATE AND TIME OF NECROPSY: 04/20/86 12:30 PROSECTOR: KIM LINCOLN RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S

NECROPSY

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

LUNG (LU) :  
-FAILURE TO COLLAPSE; FLUID FILLED  
GENERAL INFORMATION (XX) :  
>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE. ANIMAL DIED  
AFTER DOSING

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR FOREIGN MATERIAL,-  
PRESENT  
-CONGESTION,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08753      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 260.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:30      PROSECTOR: BARBARA DAY      REORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2799110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08752      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 266.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 11:42      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2799110

ANIMAL NUMBER: B08752      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 266.6 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHT: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y    O B S E R V A T I O N S  
NECROPSY

UTERUS (UT) :

-LUMEN, FLUID; BOTH, MODERATE AMOUNT,  
CLEAR

^COLLECTED/TAKEN (XW) :

-ELECTRON MICROSCOPY SAMPLE; LIVER

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LT) :

-INFLAMMATION, SUBACUTE,-MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

PANCREAS (PA) :

-INFLAMMATION, SUBACUTE,-SLIGHT

PARATHYROID (PT) :

-UNILATERALLY EXAMINED,-PRESENT

THYMUS (TH) :

>TISSUE MISSING

UTERUS (UT) :

-DILATATION,-PRESENT

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08751      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 273.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:52      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXD (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXD (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08751  
DATE OF DEATH: 07/22/86  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 97  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 273.9 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
PARATHYROID (PT) :  
>SECTION EXAMINED; TISSUE NOT PRESENT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08750      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 270.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:53      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
OVARY (OV), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808750  
DATE OF DEATH: 07/22/86  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 97  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 270.6 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-RIGHT EYE-MISSING

PATHOLOGY OBSERVATIONS  
NECROPSY

EYE (EY) :

-GLOBE RUPTURED ANTE MORTEM; RIGHT  
^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:RIGHT EYE-  
MISSING, ACTUALLY GLOBE RUPTURED  
ANTE MORTEM

HISTOPATHOLOGY

EYE (EY) :

-PANOPHTHALMITIS,-SLIGHT  
-GLOBE, RUPTURE,-PRESENT  
>NOTE:>GLOBE RUPTURE AND INFLAMMATION  
WERE UNILATERAL.

KIDNEY (KD) :

-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

PANCREAS (PA) :

-INFLAMMATION, SUBACUTE,-MINIMAL

PARATHYROID (PT) :

-UNILATERALLY EXAMINED,-PRESENT

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08749      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 288.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:45      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (MG),  
OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYROID (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA),  
PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08749  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 11:45  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE

DOSE GROUP: 4

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 288.4 GRAMS

PROSECTOR: LINDA RUMBLE

REORDER: TIM GROVE

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y    O B S E R V A T I O N S

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, MEDULLA (AM) :  
-UNILATERALLY EXAMINED,-PRESENT  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808748      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      TERMINAL BODY WEIGHT: 298.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:05      PROSECUTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08748  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 11:05  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 96  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 258.1 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08747 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 307.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:51 PROSECTOR: LINDA RUMBLE REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT STUDY NUMBER: 2399110

ANIMAL NUMBER: B08747		SEX: FEMALE		DOSE GROUP: 4		SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE	
DATE OF DEATH: 07/22/86		STUDY DAY OF DEATH: 97		STUDY WEEK OF DEATH: 14		TERMINAL BODY WEIGHT: 307.5 GRAMS	
DATE AND TIME OF NECROPSY: 07/22/86 8:51		PROSECTOR: LINDA RUMBLE		PATHOLOGIST: RICARDO QUANDER, DVM, DACUP		REORDER: TIM GROVE	
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL		WEIGHER: LINDA RUMBLE					
		ABSOLUTE ORGAN WEIGHT (GRAMS)		ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)		ORGAN TO BRAIN WEIGHT RATIO	
ORGAN NAME				ORGAN STATUS			
ADRENAL (AD)		.077		.0250 %		.0379	
OVARY (OV)		.147		.0479 %		.0727	
BRAIN W/STEM (BR)		2.03		.659 %		1.000	
HEART (HT)		.98		.318 %		.482	
SPLEEN (SP)		.54		.175 %		.265	
KIDNEY (KD)		2.33		.757 %		1.149	
LIVER (LI)		8.42		2.740 %		4.157	

CLINICAL OBSERVATIONS	PATHOLOGY OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	NECROPSY	
	OVARY (OV) :	LIVER (LI) :
	-CYST; LEFT, ONE, CLEAR, 4 X 4 X 4 MM	-PORTAL MONONUCLEAR CELL INFILTRATE, -
	GENERAL INFORMATION (XX) :	MINIMAL
	>NOTE: >EXTERNAL OBSERVATIONS: NONE	-INFLAMMATION, SUBACUTE, -MINIMAL
		LUNG (LU) :
		-PERIBRONCHIAL/PERIVASCULAR,
		INFILTRATION, LYMPHOID, -MINIMAL
		-INTRA-ALVEOLAR MACROPHAGES, -MINIMAL
		OVARY (OV) :
		>UNREMARKABLE
		PARATHYROID (PT) :
		-UNILATERALLY EXAMINED, -PRESENT
		THYMUS (TH) :
		>TISSUE MISSING

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08746 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 258.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:27 PROSECUTOR: KIM LINCOLN RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: KIM LINCOLN

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (FO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), OVARY (OV), PITUITARY (PI),  
RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08746 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 258.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:27 PROSECTOR: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP RECORDER: TIM GROVE  
WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.082	.0318 %	.0409	WEIGHT TAKEN
OVARY (OV)	.119	.0459 %	.0590	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.01	.778 %	1.000	WEIGHT TAKEN
HEART (HT)	.87	.338 %	.434	WEIGHT TAKEN
SPLEEN (SP)	.58	.224 %	.288	WEIGHT TAKEN
KIDNEY (KD)	1.88	.726 %	.933	WEIGHT TAKEN
LIVER (LI)	8.12	3.139 %	4.036	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, MEDULLA (AM) :  
-UNILATERALLY EXAMINED,-PRESENT  
KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
PANCREAS (PA) :  
-CYTOPLASMIC ALTERATION, BASOPHILIC,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08745 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 05/23/86 STUDY DAY OF DEATH: 37 STUDY WEEK OF DEATH: 6 TERMINAL BODY WEIGHT: 303.6 GRAMS  
DATE AND TIME OF NECROPSY: 05/23/86 11:57 PROSECTOR: KIM LINCOLN RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XM)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08745      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 05/23/86      STUDY DAY OF DEATH: 37      STUDY WEEK OF DEATH: 6      TERMINAL BODY WEIGHT: 303.6 GRAMS  
DATE AND TIME OF NECROPSY: 05/23/86 11:57      PROSECTOR: KIM LINCOLN      RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	
LUNG (LU) : -FAILURE TO COLLAPSE; ALL LOBES -MOTTLED; ALL LOBES, LIGHT RED TO DARK RED GENERAL INFORMATION (XX) : >NOTE:>LAST IN-LIFE AND EXTERNAL OBSERVATIONS:NONE	HEART (HT) : -FOCAL ENDOCARDIAL CELL HYPERPLASIA,- SLIGHT LIVER (LI) : -INFLAMMATION, SUBACUTE,-MINIMAL LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL -INTRA-ALVEOLAR FOREIGN MATERIAL,- PRESENT

APPENDIX 8  
 \*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
 SUBCHRONIC TOXICITY STUDY IN RATS

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HAZLETON LABORATORIES AMERICA, INC.  
 DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808744 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
 DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 285.7 GRAMS  
 DATE AND TIME OF NECROPSY: 07/21/86 9:59 PROSECTOR: DOUGLAS HERNDON RECORDED: TIM GROVE  
 POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
 BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERUICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
 DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
 LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
 MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
 OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
 STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
 BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERUICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
 DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
 LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
 OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
 STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808744      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 285.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:59      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
MAMMARY GLAND (MG) :  
>TISSUE MISSING

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08743 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 06/02/86 STUDY DAY OF DEATH: 47 STUDY WEEK OF DEATH: 7 TERMINAL BODY WEIGHT: 186.4 GRAMS  
DATE AND TIME OF NECROPSY: 06/02/86 13:25 PROSECTOR: TIM GROVE RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), LN, OTHER (LN),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), CECUM (CE), COLON (CO),  
CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT),  
ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08743  
DATE OF DEATH: 06/02/86  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 47  
PROSECTOR: TIM GROVE  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 4  
SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 186.4 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

BRAIN W/STEM (BR) :

-SOFT

LIVER (LI) :

-PALE AREA; ALL LOBES, FOCI, MULTIPLE,  
WHITE, PINPOINT  
LUNG (LU) :

-DARK; ALL LOBES, BRIGHT RED  
ORGANS, MULTIPLE (OG) :

-DARK

-SOFT

STOMACH, GL (ST) :

-DISTENDED; GREATLY

-LUMEN, FLUID; CONTAINS WATERY FOOD-  
LIKE MATERIAL

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, CORTEX (AC) :

-HYPERTROPHY,-MODERATE

BRAIN W/STEM (BR) :

>UNREMARKABLE

KIDNEY (KD) :

-TUBULE, REGENERATION,-MODERATELY  
SEVERE

-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MODERATE

-HYALINE CAST,-SEVERE

-NEPHROPATHY, CHRONIC PROGRESSIVE,-  
SEVERE

LIVER (LI) :

-INFLAMMATION, SUBACUTE,-MINIMAL

-COAGULATIVE NECROSIS,-MINIMAL

>NOTE:>COAGULATIVE NECROSIS WAS  
ASSOCIATED WITH A FOCAL

NEUTROPHIL INFILTRATE AND  
APPEARS BACTERIAL IN NATURE.

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL

-CONGESTION,-SLIGHT

PARATHYROID (PT) :

-UNILATERALLY EXAMINED,-PRESENT

PITUITARY (PI) :

>TISSUE MISSING

STOMACH, GL (ST) :

>AUTOLYTIC

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08742 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 299.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:34 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (MG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08742  
SEX: FEMALE  
DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 299.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:34  
PROSECTOR: BARBARA DAY  
RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.067	.0222 %	.0319	WEIGHT TAKEN
OVARY (OV)	.167	.0559 %	.0801	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.09	.698 %	1.000	WEIGHT TAKEN
HEART (HT)	.77	.257 %	.368	WEIGHT TAKEN
SPLEEN (SP)	.66	.221 %	.317	WEIGHT TAKEN
KIDNEY (KD)	2.03	.678 %	.971	WEIGHT TAKEN
LIVER (LI)	7.51	2.507 %	3.589	WEIGHT TAKEN

CLINICAL OBSERVATIONS

APPEARED NORMAL

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

NECROPSY

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL

LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
URINARY BLADDER (UB) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT  
STUDY NUMBER: 2399110

ANIMAL NUMBER: B08721      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 324.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 12:12      PROSECTOR: DOUGLAS HERNDON      RECORDED: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	KIDNEY (KD) : -FOCAL MONONUCLEAR CELL INFILTRATE,- MINIMAL LIVER (LT) : -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL LUNG (LU) : -INFLAMMATION, SUBACUTE,-SLIGHT -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL
THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY: ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)	

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808720 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 269.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 13:50 PROSECTOR: BARBARA DAY REORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08720

SEX: FEMALE

DOSE GROUP: 3

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/23/86

STUDY DAY OF DEATH: 98

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 269.2 GRAMS

DATE AND TIME OF NECROPSY: 07/23/86 13:50

PROSECTOR: BARBARA DAY

RECORDER: KIM LINCOLN

POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.065	.0241 %	.0335	WEIGHT TAKEN
OVARY (OV)	.140	.0520 %	.0722	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.94	.721 %	1.000	WEIGHT TAKEN
HEART (HT)	.92	.342 %	.474	WEIGHT TAKEN
SPLEEN (SP)	.53	.197 %	.223	WEIGHT TAKEN
KIDNEY (KD)	1.98	.736 %	1.021	WEIGHT TAKEN
LIVER (LI)	9.57	3.555 %	4.933	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI):

-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

LUNG (LU):

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08719      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 279.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:20      PROSECTOR: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      RECORDER: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY  
INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808718  
SEX: FEMALE  
DOSE GROUP: 3  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY DAY OF DEATH: 98  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 339.0 GRAMS  
DATE OF DEATH: 07/23/86  
PROSECTOR: PENNIE PAGE  
RECORDED: KIM LINCOLN  
DATE AND TIME OF NECROPSY: 07/23/86 10:43  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	LIVER (LI): -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL -INFLAMMATION, SUBACUTE,-MINIMAL LUNG (LU): -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXD (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT).

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT STUDY NUMBER: 2392110

ANIMAL NUMBER: B08717 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 322.6 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PROSECTOR: PENNIE PAGE RECORDER: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: PENNIE PAGE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (NG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XM)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KO)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08717 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
 DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 322.6 GRAMS  
 DATE AND TIME OF NECROPSY: 07/23/86 12:22 PROSECTOR: PENNIE PAGE RECORDER: KIM LINCOLN  
 POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: PENNIE PAGE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.071	.0220 %	.0355	WEIGHT TAKEN
OVARY (OV)	.107	.0332 %	.0535	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.00	.620 %	1.000	WEIGHT TAKEN
HEART (HT)	1.05	.325 %	.525	WEIGHT TAKEN
SPLEEN (SP)	.63	.195 %	.315	WEIGHT TAKEN
KIDNEY (KD)	2.24	.694 %	1.120	WEIGHT TAKEN
LIVER (LT)	8.46	2.622 %	4.230	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

GENERAL INFORMATION (XX) :  
 >NOTE: >EXTERNAL OBSERVATIONS: NONE

LIVER (LT) :  
 -PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
 -INFLAMMATION, SUBACUTE, -SLIGHT  
 -FATTY CHANGE, -MINIMAL  
 LUNG (LU) :  
 -PERIBRONCHIAL/PERIVASCULAR, -INFILTRATION, LYMPHOID, -MINIMAL  
 -INTRA-ALVEOLAR MACROPHAGES, -MINIMAL

-APPEARED NORMAL



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808716      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 287.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:26      PROSECTOR: TIM GROVE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: 808715      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 315.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 11:45      PROSECTOR: LINDA RUMBLE      RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS	P A T H O L O G Y    O B S E R V A T I O N S	HISTOPATHOLOGY
-APPEARED NORMAL	^COLLECTED/TAKEN (XW) : -ELECTRON MICROSCOPY SAMPLE; LIVER GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	KIDNEY (KD) : -FOCAL MONONUCLEAR CELL INFILTRATE,- MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL LUNG (LU) : -INFLAMMATION, SUBACUTE,-MINIMAL -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08714      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 328.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:37      PROSECTOR: PENNIE PAGE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: PENNIE PAGE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08714		SEX: FEMALE		DOSE GROUP: 3		SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE	
DATE OF DEATH: 07/23/86		STUDY DAY OF DEATH: 98		STUDY WEEK OF DEATH: 14		TERMINAL BODY WEIGHT: 328.9 GRAMS	
DATE AND TIME OF NECROPSY: 07/23/86 9:37		PROSECTOR: PENNIE PAGE		PATHOLOGIST: RICARDO QUANDER, DVM, DACVP		REORDER: KIM LINCOLN	
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL		WEIGHER: PENNIE PAGE					
		ABSOLUTE ORGAN WEIGHT (GRAMS)		ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)		ORGAN TO BRAIN WEIGHT RATIO	
ORGAN NAME						O R G A N S T A T U S	
ADRENAL (AD)		.055		.0167 %		WEIGHT TAKEN	
OVARY (OV)		.115		.0350 %		WEIGHT TAKEN	
BRAIN W/STEM (BR)		2.12		.645 %		1.000 WEIGHT TAKEN	
HEART (HT)		.95		.289 %		.448 WEIGHT TAKEN	
SPLEEN (SP)		.72		.219 %		.340 WEIGHT TAKEN	
KIDNEY (KD)		2.11		.642 %		.995 WEIGHT TAKEN	
LIVER (LI)		8.56		2.603 %		4.038 WEIGHT TAKEN	

CLINICAL OBSERVATIONS	PATHOLOGY OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	<div> <div>SPLEEN (SP):</div> <div>-CYST; FEW, CLEAR, 1 X 1 MM TO 5 X 3 MM</div> <div>GENERAL INFORMATION (XX):</div> <div>&gt;NOTE&gt;EXTERNAL OBSERVATIONS:NONE</div> </div>	<div> <div>KIDNEY (KD):</div> <div>-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL</div> <div>LIVER (LI):</div> <div>-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL</div> <div>LUNG (LU):</div> <div>-INFLAMMATION, SUBACUTE, -MINIMAL</div> <div>-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL</div> <div>SPLEEN (SP):</div> <div>-CAPSULE, CYST, -PRESENT</div> </div>

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XU)

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08713  
DATE OF DEATH: 07/22/86  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 97  
PROSECTOR: LINDA RUMBLE

DOSE GROUP: 3  
STUDY WEEK OF DEATH: 14  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

TERMINAL BODY WEIGHT: 315.1 GRAMS

RECORDED: TIM GROVE

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-PELVIS, MINERALIZATION,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
-COAGULATIVE NECROSIS,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08712      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 298.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:48      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08712 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 298.6 GRAMS

DATE AND TIME OF NECROPSY: 07/22/86 13:48 PROSECTOR: DOUGLAS HERNDON RECORDER: TIM GROVE

POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.053	.0179 %	.0269	WEIGHT TAKEN
OVARY (OV)	.127	.0424 %	.0636	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.99	.666 %	1.000	WEIGHT TAKEN
HEART (HT)	.98	.329 %	.494	WEIGHT TAKEN
SPLEEN (SP)	.57	.190 %	.285	WEIGHT TAKEN
KIDNEY (KD)	2.01	.673 %	1.011	WEIGHT TAKEN
LIVER (LI)	8.41	2.817 %	4.231	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

APPEARED NORMAL

NECROPSY

SKIN, OTHER (SS):

-ALOPECIA; RIGHT FORELEG

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS:RIGHT FORELEG-ALOPECIA, SECTION IN CAPSULE

HISTOPATHOLOGY

LIVER (LI):

-PORTAL MONONUCLEAR CELL INFILTRATE, MINIMAL

-INFLAMMATION, SUBACUTE, MINIMAL

-FATTY CHANGE, MINIMAL

LUNG (LU):

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, MINIMAL

SKIN, OTHER (SS):

-INFLAMMATION, CHRONIC ACTIVE, MINIMAL

-HYPERKERATOSIS, MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08711      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 274.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:30      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT  
-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808710  
SEX: FEMALE  
DATE OF DEATH: 07/22/86  
DATE AND TIME OF NECROPSY: 07/22/86 10:56  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 3  
STUDY WEEK OF DEATH: 14  
PROSECTOR: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 303.9 GRAMS  
RECORDER: TIM GROVE  
WEIGHER: KIM LINCOLN

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08710 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 303.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:56 PROSECTOR: KIM LINCOLN RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHTER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N	
					S T A T U S	WEIGHT TAKEN
ADRENAL (AD)	.091	.0298 %	.0437	.0437		WEIGHT TAKEN
OVARY (OV)	.132	.0434 %	.0636	.0636		WEIGHT TAKEN
BRAIN W/STEM (BR)	2.08	.683 %	1.000	1.000		WEIGHT TAKEN
HEART (HT)	1.05	.346 %	.506	.506		WEIGHT TAKEN
SPLEEN (SP)	.69	.227 %	.333	.333		WEIGHT TAKEN
KIDNEY (KD)	2.29	.754 %	1.103	1.103		WEIGHT TAKEN
LIVER (LI)	8.27	2.721 %	3.985	3.985		WEIGHT TAKEN

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL

LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
ADRENAL, CORTX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XU)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808709      SEX: FEMALE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96  
DATE AND TIME OF NECROPSY: 07/21/86 11:38      PROSECTOR: BARBARA DAY  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 269.0 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE: EXTERNAL OBSERVATIONS: NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, MINERALIZATION, -MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08708 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 07/18/86 STUDY DAY OF DEATH: 93 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 315.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/18/86 16:35 PROSECTOR: BARBARA DAY RECORDER: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM)  
, NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OU), PANCREAS (PA), PARATHYROID (PT),  
PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08708  
DATE OF DEATH: 07/18/86  
DATE AND TIME OF NECROPSY: 07/18/86 16:35  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 93  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 3  
SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 315.0 GRAMS  
REORDER: BARBARA DAY  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

LN, OTHER (LN) :

-ENLARGED; MEDIASTINAL

LUNG (LU) :

-FAILURE TO COLLAPSE; ALL LOBES

-MOTTLED; ALL LOBES, LIGHT TO DARK RED

THYMUS (TH) :

-CYST; THROUGHOUT, MULTIPLE, CLEAR,

PINPOINT TO 2 X 2 MM

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL

OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, CORTEX (AC) :

-INFLAMMATION, SUBACUTE,-MINIMAL

HEART (HT) :

-INFLAMMATION, SUBACUTE,-SLIGHT

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-

MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

LN, OTHER (LN) :

-MEDIASTINUM,ABSCESS,-PRESENT

>NOTE:>THE TISSUE SUBMITTED CONSIST

ENTIRELY OF A MEDIASTINAL

ABSCESS WITH NO EVIDENCE OF

MEDIASTINAL NODE PRESENT.

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID,-SLIGHT

-INTRA-ALVEOLAR FOREIGN MATERIAL,-

PRESENT

THYMUS (TH) :

>UNREMARKABLE

THYROID (TY) :

-INFLAMMATION, SUBACUTE,-MINIMAL

UTERUS (UT) :

-DILATATION,-PRESENT

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08707 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 322.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:47 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XM)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08707 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 322.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:47 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.077	.0239 %	.0366	WEIGHT TAKEN
OVARY (OV)	.137	.0424 %	.0651	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.10	.651 %	1.000	WEIGHT TAKEN
HEART (HT)	.92	.286 %	.440	WEIGHT TAKEN
SPLEEN (SP)	.79	.244 %	.375	WEIGHT TAKEN
KIDNEY (KD)	1.98	.612 %	.940	WEIGHT TAKEN
LIVER (LI)	7.24	2.243 %	3.444	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08706      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: UNSCHEDULED (D)      TERMINAL BODY WEIGHT: 280.0 GRAMS  
DATE OF DEATH: 06/09/86      STUDY DAY OF DEATH: 54      STUDY WEEK OF DEATH: 8      RECORDER: TIM GROVE  
DATE AND TIME OF NECROPSY: 06/09/86 14:23      PROSECTOR: TIM GROVE      WEIGHER: NOT REQUIRED BY PROTOCOL  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ~COLLECTED/TAKEN (XM)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
OVARY (OV), PANCREAS (PA), RECTUM (RE), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08706  
SEX: FEMALE  
DATE OF DEATH: 06/09/86  
DATE AND TIME OF NECROPSY: 06/09/86 14:23  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 3  
SACRIFICE STATUS: UNSCHEDULED (D)  
STUDY WEEK OF DEATH: 8  
TERMINAL BODY WEIGHT: 280.0 GRAMS  
PROSECTOR: TIM GROVE  
REORDER: TIM GROVE  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

LN, OTHER (LN) :

-DARK; ONE MANDIBULAR, RIGHT SIDE, RED  
-UNEQUALLY SIZED; ONE MANDIBULAR,  
ENLARGED, RIGHT SIDE, 9 X 7 X 5 MM,  
FIRM

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

LN, OTHER (LN) :

-HYPERPLASIA, LYMPHOID,-MODERATELY  
SEVERE

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR FOREIGN MATERIAL,-  
PRESENT

MAMMARY GLAND (MG) :

>TISSUE MISSING

PARATHYROID (PT) :

>SECTION EXAMINED; TISSUE NOT PRESENT  
PITUITARY (PI) :

-EMBRYONAL EPITHELIAL REST,-PRESENT  
SKIN (SK) :

>TISSUE MISSING

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08705      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 04/21/86      STUDY DAY OF DEATH: 5      TERMINAL BODY WEIGHT: 193.0 GRAMS  
DATE AND TIME OF NECROPSY: 04/21/86 14:50      PROSECTOR: BARBARA DAY      RECORDER: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08705      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 04/21/86      STUDY WEEK OF DEATH: 1      TERMINAL BODY WEIGHT: 193.0 GRAMS  
DATE AND TIME OF NECROPSY: 04/21/86 14:50      PROSECTOR: BARBARA DAY      RECORDER: BARBARA DAY  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

JEJUNUM (JE) :  
-DARK AREA; IN WALL, MULTIPLE, RED,  
PINPOINT TO 3 X 3 MM  
LUNG (LU) :  
-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, LIGHT TO DARK RED  
SPLEEN (SP) :  
-CAPSULE, PALE FILM  
GENERAL INFORMATION (XX) :  
>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

JEJUNUM (JE) :  
>AUTOLYTIC  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL  
-INTRA-ALVEOLAR FOREIGN MATERIAL, -  
PRESENT  
NERVE, SCIATIC (SN) :  
-INFLAMMATION, SUBACUTE, -SLIGHT  
SPLEEN (SP) :  
-CAPSULE, FOCAL FIBROSIS, -SLIGHT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08704      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 14      TERMINAL BODY WEIGHT: 320.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:06      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08704 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 320.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:06 PROSECTOR: LINDA RUMBLE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.082	.0257 %	.0362	WEIGHT TAKEN
OVARY (OV)	.124	.0386 %	.0543	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.28	.711 %	1.000	WEIGHT TAKEN
HEART (HT)	1.05	.327 %	.459	WEIGHT TAKEN
SPLEEN (SP)	.87	.270 %	.380	WEIGHT TAKEN
KIDNEY (KD)	2.49	.775 %	1.090	WEIGHT TAKEN
LIVER (LI)	8.09	2.524 %	3.549	WEIGHT TAKEN

CLINICAL OBSERVATIONS PATHOLGY OBSERVATIONS  
-APPEARED NORMAL  
GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY  
KIDNEY (KD):  
-FOCAL MONONUCLEAR CELL INFILTRATE, - MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE, - MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-FATTY CHANGE, -SLIGHT  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAID SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08703 SEX: FEMALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 322.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:48 PROSECUTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

PATHOLOGY OBSERVATIONS  
NECROPSY

CLINICAL OBSERVATIONS

-RIGHT EYE-MISSING

EYE (EY) :  
-GLOBE RUPTURED ANTE MORTEM; RIGHT  
^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:RIGHT EYE-  
MISSING, ACTUALLY GLOBE RUPTURED  
ANTE MORTEM, REMNANTS IN CAPSULE

HISTOPATHOLOGY

EYE (EY) :  
>TISSUE MISSING  
KIDNEY (KO) :  
-TUBULE, MINERALIZATION,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERUICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARRON, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OU), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08702      SEX: FEMALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 337.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:56      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-FATTY CHANGE, -SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JF), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (NG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

PRINTED: 04-MAY-88  
PAGE: 383  
STUDY NUMBER: 2399110

ANIMAL NUMBER: B08681      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 14      TERMINAL BODY WEIGHT: 338.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 14:04      PROSECTOR: DOUGLAS HERNDON      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: DOUGLAS HERNDON

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



INDIVIDUAL ANIMAL SUMMARY REPORT  
STUDY NUMBER: 2399110

ANIMAL NUMBER: B08681  
SEX: FEMALE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 338.3 GRAMS  
REORDER: KIM LINCOLN  
POST-FIX METHOD: NOT REQUIRED BY PROTOCOL  
PROSECTOR: DOUGLAS HERNDON  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.069	.0204 %	.0356	WEIGHT TAKEN
OVARY (OV)	.146	.0432 %	.0753	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.94	.573 %	1.000	WEIGHT TAKEN
HEART (HT)	.97	.287 %	.500	WEIGHT TAKEN
SPLEEN (SP)	.65	.192 %	.335	WEIGHT TAKEN
KIDNEY (KD)	2.27	.671 %	1.170	WEIGHT TAKEN
LIVER (LI)	8.60	2.542 %	4.433	WEIGHT TAKEN

CLINICAL OBSERVATIONS  
-APPEARED NORMAL

HISTOPATHOLOGY  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE  
KIDNEY (KO) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAJ SALLIARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

PRINTED: 04-MAY-88  
PAGE: 381

STUDY NUMBER: 2399110

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08680      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 14      TERMINAL BODY WEIGHT: 331.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 13:35      PROSECTOR: PENNIE PAGE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: PENNIE PAGE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 380

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08680  
DATE OF DEATH: 07/23/86  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 98  
PROSECTOR: PENNIE PAGE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 331.1 GRAMS  
REORDER: KIM LINCOLN  
WEIGHER: PENNIE PAGE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.082	.0248 %	.0385	WEIGHT TAKEN
OVARY (OU)	.108	.0326 %	.0507	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.13	.643 %	1.000	WEIGHT TAKEN
HEART (HT)	1.04	.314 %	.488	WEIGHT TAKEN
SPLEEN (SP)	.53	.160 %	.249	WEIGHT TAKEN
KIDNEY (KO)	2.12	.640 %	.995	WEIGHT TAKEN
LIVER (LI)	7.91	2.389 %	3.714	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KO) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
LIVER (LI) :  
-TUBULE, MINERALIZATION, -MINIMAL  
-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-FATTY CHANGE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (MG), OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XW)

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: 808679 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 289.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:36 PROSECTOR: DOUGLAS HERNDON RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP MEASURER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-MALOCCLUSION

UTERUS (UT) :  
-DISTENDED; BOTH HORNS  
^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL  
OBSERVATIONS:MALOCCLUSION

HISTOPATHOLOGY

LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
UTERUS (UT) :  
-DILATATION,-PRESENT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXD (ED),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SH), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (MG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KO)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 378

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08678      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 235.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:14      PROSECTOR: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      RECORDER: KIM LINCOLN      WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ~COLLECTED/TAKEN (XW)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

## APPENDIX B

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INSTITUTIONAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08678  
SEX: FEMALE  
DATE OF DEATH: 07/23/86  
DATE AND TIME OF NECROPSY: 07/23/86 11:14  
DOSE GROUP: 2  
DEATH: 98  
STUDY WEEK OF DEATH: 14  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 235.1 GRAMS  
RECORDER: KIM LINCOLN  
WEIGHER: BARBARA DAY  
PROSECTOR: BARBARA DAY

ORGAN  
STATUS

-----  
ORGAN TO BRAIN  
WEIGHT RATIO

-----  
ORGAN WEIGHT RELATIVE  
TO BODY WEIGHT (%)

-----  
THE ORGAN WEIGHT

-----  
 X WETTER: NO, RES

15

```

-- WEIGHT TAKEN
WEIGHT TAKEN
WEIGHT TAKEN
WEIGHT TAKEN
WEIGHT TAKEN
WEIGHT TAKEN
WEIGHT TAKEN

```

0.311
0.0564
1.000
0.362
0.260
0.942

10 BODY WEIGHT (%)	
-----	
	%
.0256	%
.0464	%
.821	%
.298	%
.214	%
.774	%

(GRAMS)	---
	.060
	.109
	1.93
	.70
	.50
	1.82

ORGAN NAME	ADRENAL (AD)	OVARY (OV)	BRAIN W/STEM (BR)	HEART (HT)	SPLEEN (SP)	VADIES (VD)
ADRENAL (AD)						
OVARY (OV)						
BRAIN W/STEM (BR)						
HEART (HT)						
SPLEEN (SP)						
VADIES (VD)						

-----  
PATHOLOGY OBSERVATIONS  
NECROPSY

# WINTERBERRY

## CLINICAL OBSERVATIONS

STOMACH, GL (ST) :  
-RAISED AREA; ADJACENT TO NONGLANDULAR  
MUCOSA, ONE, FIRM, TAN, 2 X 2 MM  
GENERAL INFORMATION (XX) :  
NOTE: EXTERNAL OBSERVATIONS: NONE

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -

MINIMAL  
INFLAMMATION SUBACUTE - SLIGHT

LUNG (L7) : GNG7

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION. LYMPHOID, -MINIMAL

- INTRA-ALVEOLAR MACROPHAGES, -SLIGHT

STOMACH, FL (SI) :  
-KERATIN CYST, -PF

>NOTE:>THE KERATIN CYST IS LOCATED IN THE MINGLANDULAR STOMACH AT THE JUNCTION WITH THE GLANDULAR STOMACH.

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 376

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08677 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 06/29/86 STUDY DAY OF DEATH: 74 STUDY WEEK OF DEATH: 11 TERMINAL BODY WEIGHT: 263.7 GRAMS  
DATE AND TIME OF NECROPSY: 06/29/86 15:10 PROSECTOR: KIM LINCOLN RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08677      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 06/29/86      STUDY DAY OF DEATH: 74      STUDY WEEK OF DEATH: 11      TERMINAL BODY WEIGHT: 263.7 GRAMS  
DATE AND TIME OF NECROPSY: 06/29/86 15:10      PROSECTOR: KIM LINCOLN      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	HEART (HT) : -INFLAMMATION, SUBACUTE,-SLIGHT LIVER (LI) : -INFLAMMATION, SUBACUTE,-MINIMAL LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL -INTRA-ALVEOLAR MACROPHAGES,-MODERATELY SEVERE -INTRA-ALVEOLAR FOREIGN MATERIAL,- PRESENT -EDEMA,-MODERATE



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 374

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08676  
DATE OF DEATH: 07/22/86  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
SEX: FEMALE  
STUDY DAY OF DEATH: 97  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
PROSECTOR: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
TERMINAL BODY WEIGHT: 279.0 GRAMS  
RECORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08675      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 14      TERMINAL BODY WEIGHT: 278.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 11:08      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHT: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PANCREAS (PA) :

-GELATINOUS

-COLLECTED/TAKEN (XW) :

-ELECTRON MICROSCOPY SAMPLE; LIVER

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :

-INFLAMMATION, SUBACUTE,-MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR MACROPHAGES,-SLIGHT

PANCREAS (PA) :

>UNREMARKABLE

- THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (NG),  
OVARY (OV), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT  
STUDY NUMBER: 2399110

ANIMAL NUMBER: B08674 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 276.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:48 PROSECTOR: PENNIE PAGE RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: PENNIE PAGE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.071	.0257 %	.0333	WEIGHT TAKEN
OVARY (OV)	.131	.0474 %	.0615	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.13	.770 %	1.000	WEIGHT TAKEN
HEART (HT)	1.04	.376 %	.488	WEIGHT TAKEN
SPLEEN (SP)	.52	.188 %	.244	WEIGHT TAKEN
KIDNEY (KD)	1.91	.691 %	.897	WEIGHT TAKEN
LIVER (LI)	7.78	2.814 %	3.653	WEIGHT TAKEN

CLINICAL OBSERVATIONS  
-APPEARED NORMAL  
P A T H O L O G Y O B S E R V A T I O N S  
NECROPSY

HISTOPATHOLOGY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

KIDNEY (KD) :  
-HYALINE CAST,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808673  
SEX: FEMALE  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 97  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 257.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:28  
PROSECTOR: LINDA RUMBLE  
REORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	LIVER (LI): -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL -INFLAMMATION, SUBACUTE,-MINIMAL -FATTY CHANGE,-MODERATE LUNG (LU): -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAJ SALTIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
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APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08672  
DATE OF DEATH: 07/23/86  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 9:12

DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
PROSECTOR: PENNIE PAGE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

TERMINAL BODY WEIGHT: 303.4 GRAMS  
REORDER: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08671  
SEX: FEMALE  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 97  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 286.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:39  
PROSECTOR: BARBARA DAY  
RECORDED: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	KIDNEY (KD) : -FOCAL MONONUCLEAR CELL INFILTRATE, - MINIMAL -PELVIS, MINERALIZATION, -MINIMAL LIVER (LI) : -INFLAMMATION, SUBACUTE, -MINIMAL LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL -INTRA-ALVEOLAR MACROPHAGES, -SLIGHT
THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY: ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)	

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08670      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 317.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:50      PROSECTOR: LINDA RUMBLE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      RECORDER: TIM GROVE  
WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (NG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08670 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 317.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:50 PROSECTOR: LINDA RUMBLE RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.077	.0243 %	.0389	WEIGHT TAKEN
OVARY (OV)	.129	.0407 %	.0654	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.98	.623 %	1.000	WEIGHT TAKEN
HEART (HT)	.93	.292 %	.468	WEIGHT TAKEN
SPLEEN (SP)	.64	.202 %	.325	WEIGHT TAKEN
KIDNEY (KD)	1.92	.606 %	.972	WEIGHT TAKEN
LIVER (LI)	7.75	2.440 %	3.917	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

NECROPSY

HISTOPATHOLOGY

-APPEARED NORMAL

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

-INFLAMMATION, SUBACUTE, -MINIMAL

-FATTY CHANGE, -MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID, -MINIMAL

-INTRA-ALVEOLAR MACROPHAGES, -SLIGHT

-PNEUMONIA, INTERSTITIAL, -MODERATE



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808669      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 230.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:50      PROSECTOR: BARBARA DAY      RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KO)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808668      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 288.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:20      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: KIM LINCOLN

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08668 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 288.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:20 PROSECTOR: KIM LINCOLN REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.090	.0313 %	.0418	WEIGHT TAKEN
OVARY (OU)	.176	.0610 %	.0814	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.16	.749 %	1.000	WEIGHT TAKEN
HEART (HT)	1.13	.393 %	.525	WEIGHT TAKEN
SPLEEN (SP)	.59	.204 %	.272	WEIGHT TAKEN
KIDNEY (KD)	2.30	.796 %	1.063	WEIGHT TAKEN
LIVER (LI)	7.90	2.738 %	3.654	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-MALOCCLUSION

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL

OBSERVATIONS: MALOCCLUSION

HISTOPATHOLOGY

KIDNEY (KD):

- FOCAL MONONUCLEAR CELL INFILTRATE, - MINIMAL

LIVER (LI):

- PORTAL MONONUCLEAR CELL INFILTRATE, - MINIMAL

- INFLAMMATION, SUBACUTE, - MINIMAL

LUNG (LU):

- PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, - MINIMAL

- INTRA-ALVEOLAR MACROPHAGES, - MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL SL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (MG), OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XW)

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APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08667 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 319.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:23 PROSECTOR: BARBARA DAY REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MANDIBULAR GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08666 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 268.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:33 PROSECTOR: LINDA RUMBLE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

HISTOPATHOLOGY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

LIVER (LI) :

-INFLAMMATION, SUBACUTE, -MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (NG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808665      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      TERMINAL BODY WEIGHT: 311.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:32      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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STUDY NUMBER: 2399110

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08665 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 311.5 GRAMS

DATE AND TIME OF NECROPSY: 07/22/86 8:32 PROSECTOR: LINDA RUMBLE RECORDED: TIM GROVE

POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.056	.0180 %	.0259	WEIGHT TAKEN
OVARY (OV)	.129	.0415 %	.0598	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.16	.694 %	1.000	WEIGHT TAKEN
HEART (HT)	.89	.285 %	.411	WEIGHT TAKEN
SPLEEN (SP)	.81	.262 %	.377	WEIGHT TAKEN
KIDNEY (KD)	2.14	.688 %	.992	WEIGHT TAKEN
LIVER (LI)	7.07	2.270 %	3.273	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-LUNG (LU) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAJOR SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XU)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08664      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 322.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:43      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08664      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 322.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:43      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.068	.0212 %	.0296	WEIGHT TAKEN
OVARY (OV)	.155	.0479 %	.0670	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.30	.715 %	1.000	WEIGHT TAKEN
HEART (HT)	1.15	.358 %	.501	WEIGHT TAKEN
SPLEEN (SP)	.67	.209 %	.293	WEIGHT TAKEN
KIDNEY (KD)	2.56	.794 %	1.111	WEIGHT TAKEN
LIVER (LI)	10.29	3.191 %	4.463	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XU)

APPENDIX B  
 \*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
 SUBCHRONIC TOXICITY STUDY IN RATS

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HAZLETON LABORATORIES AMERICA, INC.  
 DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808663 SEX: FEMALE DOSE GROUP: 2 SACRIFICE STATUS: UNSCHEDULED (D)  
 DATE OF DEATH: 06/06/86 STUDY DAY OF DEATH: 51 STUDY WEEK OF DEATH: 8 TERMINAL BODY WEIGHT: 316.9 GRAMS  
 DATE AND TIME OF NECROPSY: 06/06/86 15:50 PROSECTOR: BARBARA DAY RECORDER: BARBARA DAY  
 POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
 BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
 DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
 LIVER (LI), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM)  
 , NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA), PARATHYROID (PT),  
 PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
 THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
 BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
 DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
 LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
 NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
 SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
 UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08663  
DATE OF DEATH: 06/06/86  
DATE AND TIME OF NECROPSY: 06/06/86 15:50  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 51  
PROSECTOR: BARBARA DAY  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 2  
SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 316.9 GRAMS  
REORDER: BARBARA DAY  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

LN, OTHER (LN) :

-ENLARGED; MANDIBULAR

LUNG (LU) :

-FAILURE TO COLLAPSE; ALL LOBES

-MOTTLED; ALL LOBES, LIGHT TO DARK RED

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL

OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT) :

-INFLAMMATION, SUBACUTE,-MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-

MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

LN, OTHER (LN) :

-HYPERPLASIA, LYMPHOID,-MODERATELY

SEVERE

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR FOREIGN MATERIAL,-

PRESENT

ANIMAL NUMBER: B08662      SEX: FEMALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 273.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:41      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-FATTY CHANGE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (FO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08641      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 295.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 14:07      PROSECTOR: BARBARA DAY      RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08641      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 295.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 14:07      PROSECTOR: BARBARA DAY      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N S T A T U S	
				WEIGHT TAKEN	WEIGHT TAKEN
ADRENAL (AD)	.072	.0244 %	.0362	WEIGHT TAKEN	WEIGHT TAKEN
OVARY (OV)	.141	.0478 %	.0709	WEIGHT TAKEN	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.99	.674 %	1.000	WEIGHT TAKEN	WEIGHT TAKEN
HEART (HT)	.84	.285 %	.422	WEIGHT TAKEN	WEIGHT TAKEN
SPLEEN (SP)	.64	.217 %	.322	WEIGHT TAKEN	WEIGHT TAKEN
KIDNEY (KD)	2.00	.678 %	1.005	WEIGHT TAKEN	WEIGHT TAKEN
LIVER (LI)	7.59	2.572 %	3.814	WEIGHT TAKEN	WEIGHT TAKEN

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS	NECROPSY	HISTOPATHOLOGY
-APPEARED NORMAL	GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	HEART (HT) : -INFLAMMATION, SUBACUTE,-MINIMAL LACRIMAL GL, EXO (EO) : -INFLAMMATION, SUBACUTE,-MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL -INFLAMMATION, SUBACUTE,-MINIMAL -FATTY CHANGE,-MODERATE LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08640      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 344.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 13:59      PROSECTOR: PENNIE PAGE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: PENNIE PAGE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXD (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (DG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXD (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08640  
SEX: FEMALE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE AND TIME OF NECROPSY: 07/23/86 13:59  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 344.3 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PROSECTOR: PENNIE PAGE  
REORDER: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: PENNIE PAGE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN S T A T U S
ADRENAL (AD)	.067	.0195 %	.0325	WEIGHT TAKEN
OVARY (OV)	.120	.0349 %	.0583	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.06	.598 %	1.000	WEIGHT TAKEN
HEART (HT)	1.02	.296 %	.495	WEIGHT TAKEN
SPLEEN (SP)	.60	.174 %	.291	WEIGHT TAKEN
KIDNEY (KD)	2.14	.622 %	1.039	WEIGHT TAKEN
LIVER (LI)	8.47	2.460 %	4.112	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y    O B S E R V A T I O N S

NECROPSY

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI) :  
-HYALINE CAST,-MINIMAL  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LUNG (LU) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-SLIGHT  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
UTERUS (UT) :  
-DILATATION,-PRESENT



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DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08639  
DATE OF DEATH: 07/23/86  
SEX: FEMALE  
STUDY DAY OF DEATH: 98  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE AND TIME OF NECROPSY: 07/23/86 13:35  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 344.2 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PROSECTOR: BARBARA DAY  
REORDER: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (NG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808639 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 14 TERMINAL BODY WEIGHT: 344.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 13:35 PROSECTOR: BARBARA DAY RECORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.072	.0209 %	.0381	WEIGHT TAKEN
OVARY (OV)	.165	.0479 %	.0873	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.89	.549 %	1.000	WEIGHT TAKEN
HEART (HT)	.88	.256 %	.466	WEIGHT TAKEN
SPLEEN (SP)	.54	.157 %	.286	WEIGHT TAKEN
KIDNEY (KD)	2.24	.651 %	1.185	WEIGHT TAKEN
LIVER (LI)	7.97	2.316 %	4.217	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT  
-PNEUMONIA, INTERSTITIAL,-SLIGHT

-APPEARED NORMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08638      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 283.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:48      PROSECTOR: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      RECORDER: KIM LINCOLN  
WEIGHER: TIM GROVE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 347

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08638 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 283.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:48 PROSECTOR: TIM GROVE RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHTER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N	
				S T A T U S	
ADRENAL (AD)	.062	.0219 %	.0360	WEIGHT TAKEN	
OVARY (OV)	.126	.0445 %	.0733	WEIGHT TAKEN	
BRAIN W/STEM (BR)	1.72	.607 %	1.000	WEIGHT TAKEN	
HEART (HT)	.83	.293 %	.483	WEIGHT TAKEN	
SPLEEN (SP)	.59	.208 %	.343	WEIGHT TAKEN	
KIDNEY (KD)	1.98	.699 %	1.151	WEIGHT TAKEN	
LIVER (LT)	7.61	2.685 %	4.424	WEIGHT TAKEN	

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LUNG (LU) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-SLIGHT  
NERVE, SCIATIC (SN) :  
-UNILATERALLY EXAMINED,-PRESENT  
PARATHYROID (PT) :  
>SECTION EXAMINED; TISSUE NOT PRESENT

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08637 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 302.2 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PROSECTOR: BARBARA DAY RECORDER: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: 808637 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 302.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:29 PROSECTOR: BARBARA DAY RECORDED: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08636  
SEX: FEMALE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
PROSECTOR: BARBARA DAY  
TERMINAL BODY WEIGHT: 309.4 GRAMS  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
REORDER: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08636      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 14      TERMINAL BODY WEIGHT: 309.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:09      PROSECTOR: BARBARA DAY      RECORDED BY: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

SKIN, OTHER (SS) :  
-ALOPECIA; RIGHT HINDLEG, SLIGHT  
^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:RIGHT  
HINDLEG-ALOPECIA, IN CAPSULE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
SKIN, OTHER (SS) :  
>UNREMARKABLE



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH-TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08635 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 274.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:39 PROSECTOR: TIM GROVE RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: TIM GROVE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08635  
SEX: FEMALE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 274.0 GRAMS  
REORDER: KIM LINCOLN  
WEIGHER: TIM GROVE

DOSE GROUP: 1  
STUDY WEEK OF DEATH: 14  
PROSECTOR: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DUM, DACUP

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.073	.0266 %	.0420	WEIGHT TAKEN
OVARY (OV)	.109	.0398 %	.0626	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.74	.635 %	1.000	WEIGHT TAKEN
HEART (HT)	.82	.299 %	.471	WEIGHT TAKEN
SPLEEN (SP)	.47	.172 %	.270	WEIGHT TAKEN
KIDNEY (KD)	1.98	.723 %	1.138	WEIGHT TAKEN
LIVER (LI)	6.57	2.398 %	3.776	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL  
OBSERVATIONS:MALOCCLUSION

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT  
URINARY BLADDER (UB) :  
>TISSUE MISSING

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08634      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 271.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:38      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08634  
SEX: FEMALE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 97  
DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 271.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:38  
PROSECTOR: DOUGLAS HERNDON  
RECORDED: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS	P A T H O L O G Y   O B S E R V A T I O N S	HISTOPATHOLOGY
-APPEARED NORMAL	^COLLECTED/TAKEN (XW) : -ELECTRON MICROSCOPY SAMPLE; LIVER GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	HEART (HT) : -INFLAMMATION, SUBACUTE,-MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL -INFLAMMATION, SUBACUTE,-SLIGHT LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-SLIGHT PARATHYROID (PT) : >SECTION EXAMINED; TISSUE NOT PRESENT UTERUS (UT) : -DILATATION,-PRESENT

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08633      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 281.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 14:01      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: KIM LINCOLN

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08633 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 281.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 14:01 PROSECTOR: KIM LINCOLN RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	STATUS
ADRENAL (AD)	.089	.0315 %	.0435	WEIGHT TAKEN
OVARY (OU)	.140	.0496 %	.0684	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.04	.725 %	1.000	WEIGHT TAKEN
HEART (HT)	.95	.338 %	.466	WEIGHT TAKEN
SPLEEN (SP)	.59	.208 %	.287	WEIGHT TAKEN
KIDNEY (KD)	2.08	.737 %	1.017	WEIGHT TAKEN
LIVER (LI)	7.25	2.577 %	3.553	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
-PNEUMONIA, INTERSTITIAL,-SLIGHT PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08632      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 289.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:47      PROSECTOR: BARBARA DAY      RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SN), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SN),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08632

SEX: FEMALE

DOSE GROUP: 1

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/22/86

STUDY DAY OF DEATH: 97

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 289.1 GRAMS

DATE AND TIME OF NECROPSY: 07/22/86 13:47

PROSECTOR: BARBARA DAY

RECORDER: TIM GROVE

POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.072	.0247 %	.0371	WEIGHT TAKEN
OVARY (OV)	.117	.0406 %	.0609	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.93	.667 %	1.000	WEIGHT TAKEN
HEART (HT)	.80	.276 %	.414	WEIGHT TAKEN
SPLEEN (SP)	.64	.222 %	.332	WEIGHT TAKEN
KIDNEY (KD)	2.00	.692 %	1.038	WEIGHT TAKEN
LIVER (LI)	6.75	2.336 %	3.503	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

SPLEEN (SP) :

-CYST; AT MARGIN, ONE, CLEAR, 2 X 1 MM

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

-FATTY CHANGE,-SLIGHT

LUNGS (LU) :

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL

PARATHYROID (PT) :

>SECTION EXAMINED; TISSUE NOT PRESENT

SPLEEN (SP) :

-CAPSULE, CYST,-PRESENT

HISTOPATHOLOGY



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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APPENDIX 8

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08631      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 288.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:31      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT),  
PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08631      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 288.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:31      PROSECTOR: DOUGLAS HERNDON      REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N	
				S T A T U S	
ADRENAL (AD)	.074	.0258 %	.0370	WEIGHT TAKEN	
OVARY (OV)	.127	.0439 %	.0628	WEIGHT TAKEN	
BRAIN W/STEM (BR)	2.02	.699 %	1.000	WEIGHT TAKEN	
HEART (HT)	.97	.337 %	.483	WEIGHT TAKEN	
SPLEEN (SP)	.64	.222 %	.318	WEIGHT TAKEN	
KIDNEY (KD)	2.06	.714 %	1.023	WEIGHT TAKEN	
LIVER (LI)	7.03	2.434 %	3.485	WEIGHT TAKEN	

P A T H O L O G Y    O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

BONE, FEMUR (FE) :  
>TISSUE MISSING  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08630      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 302.9 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

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STUDY NUMBER: 2399110

ANIMAL NUMBER: B08630  
SEX: FEMALE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 97  
DATE AND TIME OF NECROPSY: 07/22/86 10:06  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 302.9 GRAMS  
PROSECTOR: LINDA RUMBLE  
REORDER: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.074	.0246 %	.0356	WEIGHT TAKEN
OVARY (OV)	.186	.0615 %	.0890	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.09	.691 %	1.000	WEIGHT TAKEN
HEART (HT)	1.01	.332 %	.481	WEIGHT TAKEN
SPLEEN (SP)	.67	.220 %	.319	WEIGHT TAKEN
KIDNEY (KD)	2.31	.763 %	1.104	WEIGHT TAKEN
LIVER (LI)	8.19	2.704 %	3.914	WEIGHT TAKEN

CLINICAL OBSERVATIONS  
-APPEARED NORMAL

GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY  
KIDNEY (KD):  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI):  
-HYALINE CAST,-MINIMAL  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LUNG (LU):  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL  
PARATHYROID (PT):  
>SECTION EXAMINED; TISSUE NOT PRESENT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08629 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 328.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:23 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08629      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 328.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:23      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	KIDNEY (KD) : -PELVIS, DILATED; RIGHT, MODERATELY SEVERE LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL -INFLAMMATION, SUBACUTE, -SLIGHT LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL UTERUS (UT) : -DILATATION, -PRESENT

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808628 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 223.4 GRAMS  
POST-FTX WEIGHT: NOT REQUIRED BY PROTOCOL PROSECTOR: KIM LINCOLN RECORDER: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: KIM LINCOLN

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OU), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU),  
ESOPHAGUS (ES), EYE (EY), ILEUM (IL), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA),  
PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYROID (TY),  
TRACHEA (TR), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08628      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 223.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:43      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: KIM LINCOLN

P A T H O L O G Y      O B S E R V A T I O N S      (CONTINUED)

CLINICAL OBSERVATIONS

NECROPSY

HISTOPATHOLOGY

LIVER (LI) :

- INFLAMMATION, SUBACUTE, -MINIMAL
- EXTRAMEDULLARY HEMATOPOIESIS, INCREASED, -MINIMAL

LUNG (LU) :

- PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL

PARATHYROID (PT) :

- UNILATERALLY EXAMINED, -PRESENT

THYMUS (TH) :

- > TISSUE MISSING

URINARY BLADDER (UB) :

- INFLAMMATION, SUBACUTE, -MODERATELY SEVERE



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808628 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 223.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:43 PROSECTOR: KIM LINCOLN REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.092	.0414 %	.0468	WEIGHT TAKEN
OVARY (OV)	.205	.0919 %	.1040	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.97	.883 %	1.000	WEIGHT TAKEN
HEART (HT)	1.05	.470 %	.532	WEIGHT TAKEN
SPLEEN (SP)	.90	.402 %	.455	WEIGHT TAKEN
KIDNEY (KD)	4.24	1.897 %	2.147	WEIGHT TAKEN
LIVER (LI)	12.72	5.692 %	6.443	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

HISTOPATHOLOGY

JEJUNUM (JE) :  
-DARK AREA; IN WALL, DIFFUSE, RED  
-LUMEN, MATERIAL; MODERATE AMOUNT, THICK, DARK RED  
KIDNEY (KD) :  
-PALE; BOTH, TAN  
-GRANULAR/PITTED/ROUGH; BOTH, PITTED, SLIGHTLY  
-ENLARGED; BOTH, SLIGHTLY  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

CECUM (CE) :  
-DILATATION,-PRESENT  
HEART (HT) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FIBROSIS,-MINIMAL  
JEJUNUM (JE) :  
>UNREMARKABLE  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MODERATELY SEVERE  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MODERATELY SEVERE  
-INTERSTITIUM, FIBROSIS,-MODERATELY SEVERE  
-TRANSITIONAL EPITHELIUM, HYPERPLASIA,-MODERATE  
-SUPPURATIVE PYELITIS,-MODERATE  
-HYALINE CAST,-MODERATELY SEVERE  
-NEPHROPATHY, CHRONIC PROGRESSIVE,-MODERATELY SEVERE  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08627 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 252.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:48 PROSECTOR: LINDA RUMBLE REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DUM, DACUP WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08627      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 252.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:48      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N S T A T U S	
				WEIGHT TAKEN	WEIGHT TAKEN
ADRENAL (AD)	.087	.0345 %	.0402	WEIGHT TAKEN	WEIGHT TAKEN
OVARY (OV)	.150	.0595 %	.0693	WEIGHT TAKEN	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.17	.859 %	1.000	WEIGHT TAKEN	WEIGHT TAKEN
HEART (HT)	.99	.391 %	.455	WEIGHT TAKEN	WEIGHT TAKEN
SPLEEN (SP)	.45	.176 %	.205	WEIGHT TAKEN	WEIGHT TAKEN
KIDNEY (KD)	2.30	.911 %	1.060	WEIGHT TAKEN	WEIGHT TAKEN
LIVER (LI)	9.00	3.564 %	4.148	WEIGHT TAKEN	WEIGHT TAKEN

CLINICAL OBSERVATIONS

APPEARED NORMAL

P A T H O L O G Y O B S E R V A T I O N S

NECROPSY

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

-FATTY CHANGE,-MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR MACROPHAGES,-MODERATE

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08626 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 321.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:55 PROSECTOR: BARBARA DAY REORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08626  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 9:55  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE

DOSE GROUP: 1

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 321.0 GRAMS

PROSECTOR: BARBARA DAY

RECORDED: TIM GROVE

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
MAMMARY GLAND (MG) :  
>TISSUE MISSING  
OVARY (OV) :  
-AMYLOIDOSIS,-MODERATE

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08625 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 278.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:44 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (MG),  
OVARY (OU), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OU), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08625 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 278.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:44 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.062	.0221 %	.0323	WEIGHT TAKEN
OVARY (OV)	.117	.0419 %	.0612	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.91	.685 %	1.000	WEIGHT TAKEN
HEART (HT)	.76	.272 %	.397	WEIGHT TAKEN
SPLEEN (SP)	.62	.221 %	.323	WEIGHT TAKEN
KIDNEY (KD)	1.74	.626 %	.914	WEIGHT TAKEN
LIVER (LI)	6.27	2.252 %	3.286	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED, -PRESENT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08624 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 269.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:28 PROSECTOR: LINDA RUMBLE RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08624  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 13:28  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 96  
PROSECTOR: LINDA RUMBLE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

DOSE GROUP: 1  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 269.9 GRAMS  
REORDER: TIM GROVE  
WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATISTICS
ADRENAL (AD)	.088	.0325 %	.0412	WEIGHT TAKEN
OVARY (OV)	.185	.0686 %	.0872	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.12	.787 %	1.000	WEIGHT TAKEN
HEART (HT)	1.11	.412 %	.523	WEIGHT TAKEN
SPLEEN (SP)	.90	.332 %	.422	WEIGHT TAKEN
KIDNEY (KD)	4.90	1.815 %	2.306	WEIGHT TAKEN
LIVER (LI)	12.07	4.472 %	5.680	WEIGHT TAKEN

CLINICAL OBSERVATIONS

APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

KIDNEY (KD) :

-PALE; BOTH, TAN  
-GRANULAR/PITTED/ROUGH; BOTH, PITTED,  
MODERATELY  
-ENLARGED; BOTH

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

HEART (HT) :

-FIBROSIS,-MINIMAL

KIDNEY (KD) :

-TUBULE, REGENERATION,-MODERATELY  
SEVERE

-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MODERATELY SEVERE

-INTERSTITIUM, FIBROSIS,-MODERATELY  
SEVERE

-NEPHROPATHY, CHRONIC PROGRESSIVE,-  
MODERATELY SEVERE

LACRIMAL GL, EXO (EO) :

-INFLAMMATION, SUBACUTE,-MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

-NECROSIS, INDIVIDUAL CELL,-MINIMAL  
LUNG (LU) :

-PERIBRONCHIAL/PERTUASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

UTERINE BLADDER (UB) :

-LUMEN, PROTEINACIOUS MATERIAL,-MODERATE

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08623      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 331.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:07      PROSECTOR: LINDA RUMBLE      RECORDER: RICARDO QUANDER, DUM, DACUP  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DUM, DACUP      WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08623  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 11:07  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF DEATH: 96  
PROSECTOR: LINDA RUMBLE  
PATHOLOGIST: RICARDO QUANDER, DUM, DACUP

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 331.7 GRAMS  
REORDER: RICARDO QUANDER, DUM, DACUP  
WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.066	.0199 %	.0326	WEIGHT TAKEN
OVARY (OU)	.129	.0388 %	.0636	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.03	.611 %	1.000	WEIGHT TAKEN
HEART (HT)	.98	.295 %	.483	WEIGHT TAKEN
SPLEEN (SP)	.81	.245 %	.401	WEIGHT TAKEN
KIDNEY (KD)	2.20	.663 %	1.085	WEIGHT TAKEN
LIVER (LI)	7.61	2.296 %	3.758	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HEART (HT):

-INFLAMMATION, SUBACUTE,-MINIMAL

LIVER (LI):

-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

LUNG (LU):

-INFLAMMATION, SUBACUTE,-MINIMAL

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

MAMMARY GLAND (MG):

>TISSUE MISSING

HISTOPATHOLOGY

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08622 SEX: FEMALE DOSE GROUP: 1 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 281.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:12 PROSECTOR: LINDA RUMBLE RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08622      SEX: FEMALE      DOSE GROUP: 1      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 281.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:12      PROSECTOR: LINDA RUMBLE      REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.060	.0213 %	.0268	WEIGHT TAKEN
OVARY (OV)	.117	.0416 %	.0522	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.24	.796 %	1.000	WEIGHT TAKEN
HEART (HT)	1.08	.384 %	.482	WEIGHT TAKEN
SPLEEN (SP)	.81	.288 %	.362	WEIGHT TAKEN
KIDNEY (KD)	2.12	.753 %	.946	WEIGHT TAKEN
LIVER (LI)	7.28	2.587 %	3.250	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES, -SLIGHT PARATHYROID (PT) :  
-UNILATERALLY EXAMINED, -PRESENT  
UTERUS (UT) :  
-DILATATION, -PRESENT

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08741      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 583.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:02      PROSECTOR: DOUGLAS HERNDON      RECORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (ED), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP),  
ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08741      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 583.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:02      PROSECTOR: DOUGLAS HERNOON  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      RECORDER: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, CORTEX (AC) :  
-HYPERTROPHY, -SLIGHT  
HEART (HT) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-FIBROSIS, -SLIGHT  
KIDNEY (KD) :  
-TUBULE, REGENERATION, -MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE, -MODERATE  
-DEGENERATION, -MODERATE  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -SLIGHT  
-FATTY CHANGE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL  
MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR, -MINIMAL  
-INFLAMMATION, SUBACUTE, -SLIGHT

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08740 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 433.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:14 PROSECTOR: DOUGLAS HERNDON RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), PANCREAS (PA),  
PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08740 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 433.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:14 PROSECTOR: DOUGLAS HERNDON  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.073	.0168 %	.0332	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.20	.507 %	1.000	WEIGHT TAKEN
HEART (HT)	1.18	.272 %	.536	WEIGHT TAKEN
SPLEEN (SP)	.69	.159 %	.314	WEIGHT TAKEN
KIDNEY (KD)	3.63	.837 %	1.650	WEIGHT TAKEN
LIVER (LI)	12.93	2.981 %	5.877	WEIGHT TAKEN
TESTIS/EPIDID (TP)	4.90	1.130 %	2.227	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD):  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LUNG (LU):  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
MAMMARY GLAND (MG):  
>SECTION EXAMINED; TISSUE NOT PRESENT  
NERVE, SCIATIC (SN):  
-UNILATERALLY EXAMINED,-PRESENT  
PARATHYROID (PT):  
-UNILATERALLY EXAMINED,-PRESENT  
PROSTATE (PR):  
-LUMEN, DEBRIS, CELLULAR,-MODERATE  
-INFLAMMATION, SUBACUTE,-MODERATE

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08739      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: UNSCHEDULED (D)      TERMINAL BODY WEIGHT: 545.9 GRAMS  
DATE OF DEATH: 06/24/86      STUDY DAY OF DEATH: 10      RECORDER: BARBARA DAY  
DATE AND TIME OF NECROPSY: 06/24/86 11:25      PROSECTOR: BARBARA DAY      WEIGHER: NOT REQUIRED BY PROTOCOL  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08739  
DATE OF DEATH: 06/24/86  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 69  
PROSECTOR: BARBARA DAY

DOSE GROUP: 4  
SACRIFICE STATUS: UNSCHEDULED (D)  
STUDY WEEK OF DEATH: 10  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

TERMINAL BODY WEIGHT: 545.9 GRAMS  
RECORDED: BARBARA DAY  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

LUNG (LU) :

-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, LIGHT TO DARK RED  
GENERAL INFORMATION (XX) :  
>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-PELVIS, DILATATION,-SLIGHT  
LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL  
-HYALINE INCLUSION, CYTOPLASMIC,-SLIGHT  
LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-CONGESTION,-SLIGHT  
-EDEMA,-SLIGHT

PROSTATE (PR) :

-LUMEN, DEBRIS, CELLULAR,-MINIMAL  
SEMINAL VESICLE (SV) :  
-LUMEN, DEBRIS, CELLULAR,-SLIGHT

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08738 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 396.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 12:14 PROSECTOR: TIM GROVE REORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NERVE, SCIATIC (SN), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08738      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 396.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 12:14      PROSECTOR: TIM GROVE      RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      MEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y      O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-MALOCCLUSION

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL  
OBSERVATIONS: MALOCCLUSION

HISTOPATHOLOGY

EPIDIDYMIS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
HEART (HT) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
KIDNEY (KD) :  
-INTERSTITIUM, FIBROSIS, -MINIMAL  
-TRANSITIONAL EPITHELIUM, HYPERPLASIA, -  
MODERATE  
-SUPPURATIVE PYELITIS, -MODERATELY  
SEVERE  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL  
MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR, -MINIMAL  
-INFLAMMATION, CHRONIC ACTIVE, -MODERATE

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08737 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 512.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:06 PROSECTOR: DOUGLAS HERNDON RECORDED BY: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SU), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08737  
DATE OF DEATH: 07/23/86  
DATE AND TIME OF NECROPSY: 07/23/86 11:06  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE

DOSE GROUP: 4

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 512.1 GRAMS

PROSECTOR: DOUGLAS HERNDON

RECORDED: KIM LINCOLN

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S

NECROPSY

^COLLECTED/TAKEN (XW) :

-ELECTRON MICROSCOPY SAMPLE; LIVER

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL

-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

LUNG (LU) :

-INFLAMMATION, SUBACUTE,-MINIMAL

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL

MAMMARY GLAND (MG) :

>SECTION EXAMINED; TISSUE NOT PRESENT

PARATHYROID (PT) :

-UNILATERALLY EXAMINED,-PRESENT

PROSTATE (PR) :

-LUMEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08736 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 512.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:07 PROSECTOR: DOUGLAS HERNDON RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DUM, DACUP WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808736  
SEX: MALE  
DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 512.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:07  
PROSECTOR: DOUGLAS HERNOON  
REORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE: >EXTERNAL OBSERVATIONS: NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION, -MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -SLIGHT

LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL  
PITUITARY (PI) :  
-FOCAL DEGENERATION, -MINIMAL  
STOMACH, NONEL (SU) :  
-ACANTHOSIS, -SLIGHT

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08735 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 501.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 11:27 PROSECTOR: LINDA RUMBLE RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI),  
PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08735  
DATE OF DEATH: 07/22/86  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 97  
PROSECTOR: LINDA RUMBLE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 501.8 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIDIDYMIS (EP) :

-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL

EYE (EY) :

-UNILATERALLY EXAMINED, -PRESENT

KIDNEY (KD) :

-TUBULE, REGENERATION, -MINIMAL

-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL

-INFLAMMATION, SUBACUTE, -MINIMAL

-FATTY CHANGE, -MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

MAMMARY GLAND (MG) :

>SECTION EXAMINED; TISSUE NOT PRESENT

NERVE, SCIATIC (SN) :

-UNILATERALLY EXAMINED, -PRESENT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08734 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 475.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:26 PROSECTOR: BARBARA DAY RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP),  
ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP),  
ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PANCREAS (PA), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08734  
DATE OF DEATH: 07/22/86  
DATE AND TIME OF NECROPSY: 07/22/86 10:26  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 97  
DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
PROSECTOR: BARBARA DAY  
TERMINAL BODY WEIGHT: 475.5 GRAMS  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S

NECROPSY

CECUM (CE) :  
-MUCOSA, DARK; RED  
COLON (CO) :  
-INTUSSUSCEPTED; ONE, 6.0 CM FROM  
CECUM, 1.0 X 1.0 CM  
>NOTE:>INTUSSUSCEPTION APPEARS AGONAL  
^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

CECUM (CE) :  
-DILATATION,-PRESENT  
COLON (CO) :  
-DILATATION,-PRESENT  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LT) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08733 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 529.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:31 PROSECTOR: BARBARA DAY RECORDED: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP MEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), PROSTATE (PR),  
RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808733 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY WEEK OF DEATH: 14  
DATE AND TIME OF NECROPSY: 07/22/86 13:31 PROSECTOR: BARBARA DAY  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DUM, DACUP  
WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.057	.0108 %	.0270	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.11	.398 %	1.000	WEIGHT TAKEN
HEART (HT)	1.41	.267 %	.672	WEIGHT TAKEN
SPLEEN (SP)	.82	.155 %	.390	WEIGHT TAKEN
KIDNEY (KD)	3.58	.676 %	1.699	WEIGHT TAKEN
LIVER (LI)	15.17	2.868 %	7.206	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.31	1.003 %	2.520	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

NECROPSY  
GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, MEDULLA (AM):  
-UNILATERALLY EXAMINED,-PRESENT  
EPIDIDYMIS (EP):  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
HEART (HT):  
-INFLAMMATION, SUBACUTE,-MINIMAL  
KIDNEY (KD):  
-TUBULE, REGENERATION,-SLIGHT  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
PARATHYROID (PT):  
-UNILATERALLY EXAMINED,-PRESENT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08732      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 489.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:45      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

P A T H O L O G Y   O B S E R V A T I O N S   (CONTINUED)

N E C R O P S Y

CLINICAL OBSERVATIONS

MAMMARY GLAND (MG) : TISSUE NOT PRESENT

>SECTION EXAMINED; NERVE, SCIATIC (SN) :

-UNILATERALLY EXAMINED, -PRESENT

PARATHYROID (PT) :

-UNILATERALLY EXAMINED, -PRESENT

PROSTATE (PR) :

-LUMEN, DEBRIS, CELLULAR, -MINIMAL

STOMACH, NONGL (SU) :

-ACANTHOSIS, -MODERATE

THYMUS (TH) :

-CYST, -PRESENT

TESTIS (TE) :

-COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),

COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),

ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),

PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),

TESTIS (TE), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

APPENDIX 8

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STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08732      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 489.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:45      PROSECTOR: LINDA RUMBLE      REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.070	.0142 %	.0294	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.37	.484 %	1.000	WEIGHT TAKEN
HEART (HT)	1.51	.308 %	.637	WEIGHT TAKEN
SPLEEN (SP)	.89	.181 %	.373	WEIGHT TAKEN
KIDNEY (KD)	4.11	.839 %	1.732	WEIGHT TAKEN
LIVER (LI)	14.92	3.046 %	6.292	WEIGHT TAKEN
TESTIS/EPIDID (TP)	6.05	1.235 %	2.552	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

BONE, FEMUR (FE) :  
-ARTICULAR SURFACE, NOT PRESENT, -PRESENT  
EPIDIDYMS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
HEART (HT) :  
-INFLAMMATION, SUBACUTE, -SLIGHT  
KIDNEY (KD) :  
-TUBULE, REGENERATION, -SLIGHT  
-FOCAL MONONUCLEAR CELL INFILTRATE, -SLIGHT  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-DEGENERATION, -SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, -INFILTRATION, LYMPHOID, -MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08731      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 515.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:04      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08731      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 515.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:04      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIDIDYMIS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-MODERATE  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-FATTY CHANGE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08730 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 485.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:13 PROSECTOR: BARBARA DAY RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHER: BARBARA DAY

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), TESTIS (TE), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SN), NERVE, SCIATIC (SN),  
PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808730 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PROSECTOR: BARBARA DAY TERMINAL BODY WEIGHT: 485.3 GRAMS  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP RECORDER: TIM GROVE  
WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.044	.0091 %	.0215	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.06	.425 %	1.000	WEIGHT TAKEN
HEART (HT)	1.39	.287 %	.676	WEIGHT TAKEN
SPLEEN (SP)	.74	.153 %	.360	WEIGHT TAKEN
KIDNEY (KD)	3.45	.711 %	1.674	WEIGHT TAKEN
LIVER (LI)	12.71	2.620 %	6.172	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.27	1.087 %	2.560	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

STOMACH, NONGL (SU) :  
-WALL, THICKENED; SLIGHTLY  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATION:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-DEGENERATION,-SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
PANCREAS (PA) :  
-INDIVIDUAL CELL DEGENERATION/NECROSIS,-MINIMAL  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT  
STOMACH, NONGL (SU) :  
-ACANTHOSIS,-MINIMAL

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 398.2 GRAMS  
REORDER: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 4  
STUDY WEEK OF DEATH: 5  
PROSECTOR: KIM LINCOLN  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

ANIMAL NUMBER: B08729  
SEX: MALE  
STUDY DAY OF DEATH: 34  
DATE OF DEATH: 05/20/86  
DATE AND TIME OF NECROPSY: 05/20/86 10:30  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), (SG),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), (EO),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08729  
DATE OF DEATH: 05/20/86  
DATE AND TIME OF NECROPSY: 05/20/86 10:30  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 34  
PROSECTOR: KIM LINCOLN  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 4  
SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 398.2 GRAMS  
RECORDED: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

LUNG (LU) :

-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, DARK RED TO LIGHT  
RED

-FLUID FILLED; ALL LOBES

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE. DIED AFTER  
GAUAGING

HISTOPATHOLOGY

EYE (EY) :

-PERIORBITAL SUBACUTE INFLAMMATION,-  
PRESENT

>NOTE:>PERIORBITAL INFLAMMATION WAS  
UNILATERAL AND LIKELY SECONDARY  
TO BLOOD COLLECTION.

KIDNEY (KD) :

-TUBULE, REGENERATION,-SLIGHT

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL

-HYALINE INCLUSION, CYTOPLASMIC,-  
MODERATE

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL

PARATHYROID (PT) :

-UNILATERALLY EXAMINED,-PRESENT

SEMINAL VESICLE (SV) :

-LUMEN, DEBRIS, CELLULAR,-MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08728 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 391.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 11:28 PROSECTOR: LINDA RUMBLE REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP),  
ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08728  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 11:28  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
STUDY DAY OF DEATH: 96  
PROSECTOR: LINDA RUMBLE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 391.6 GRAMS  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

BONE, FEMUR (FE) :  
-ARTICULAR SURFACE, NOT PRESENT,  
PRESENT  
HEART (HT) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-MODERATE  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-INTERSTITIUM, FIBROSIS,-MINIMAL  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL  
MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PARATHYROID (PT) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PROSTATE (PR) :  
-LUEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08727 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 390.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:24 PROSECTOR: KIM LINCOLN RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), PROSTATE (PR),  
RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08727  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 10:24  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE  
DOSE GROUP: 4  
PROSECTOR: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 390.0 GRAMS  
REORDER: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIIDIDYMITIS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
HEART (HT) :  
-FIBROSIS, -MINIMAL  
KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LACRIMAL GL, EXO (EO) :  
>TISSUE MISSING  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -SLIGHT  
MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED, -FINDING MISSING  
THYMUS (TH) :  
>TISSUE MISSING

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08726 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 481.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:50 PROSECTOR: KIM LINCOLN RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHER: KIM LINCOLN

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08726  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 10:50  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
SEX: MALE  
STUDY DAY OF DEATH: 96  
DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
PROSECTOR: KIM LINCOLN  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 481.7 GRAMS  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
REORDER: TIM GROVE  
WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.093	.0193 %	.0374	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.48	.516 %	1.000	WEIGHT TAKEN
HEART (HT)	1.56	.323 %	.627	WEIGHT TAKEN
SPLEEN (SP)	.80	.166 %	.322	WEIGHT TAKEN
KIDNEY (KD)	3.98	.826 %	1.601	WEIGHT TAKEN
LIVER (LI)	13.76	2.856 %	5.539	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.19	1.078 %	2.091	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIDIDYMITIS (EP) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
-TRANSITIONAL EPITHELIUM, HYPERPLASIA, SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
-INFLAMMATION, SUBACUTE, SLIGHT  
-FATTY CHANGE, MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR INFILTRATION, LYMPHOID, MINIMAL  
MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PANCREAS (PA) :  
-INFLAMMATION, SUBACUTE, MINIMAL  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR, MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08725 SEX: MALE DOSE GROUP: 4 SACRIFICE STATUS: UNSCHEDULED (D) 345.7 GRAMS  
DATE OF DEATH: 05/19/86 STUDY DAY OF DEATH: 33 STUDY WEEK OF DEATH: 5 TERMINAL BODY WEIGHT: 345.7 GRAMS  
DATE AND TIME OF NECROPSY: 05/19/86 11:42 PROSECTOR: KIM LINCOLN RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA),  
PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08725      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 05/19/86      STUDY WEEK OF DEATH: 5      TERMINAL BODY WEIGHT: 345.7 GRAMS  
DATE AND TIME OF NECROPSY: 05/19/86 11:42      PROSECTOR: KIM LINCOLN      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y      O B S E R V A T I O N S  
NECROPSY

LIVER (LI):

-PALE AREA; ALL LOBES, SEVERAL, TAN, 7  
X 5 MM TO 5 X 5 MM TO 4 X 3 MM

LUNG (LU):

-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, DARK TO LIGHT RED  
GENERAL INFORMATION (XX):

>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIDIDYMIS (EP):

-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

HEART (HT):

-ATRIA, DILATATION,-MODERATELY SEVERE  
KIDNEY (KD):

-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INTERSTITIUM, FIBROSIS,-MINIMAL  
LACRIMAL GL, EXO (EO):

-INFLAMMATION, SUBACUTE,-MINIMAL  
LIVER (LI):

-HYALINE INCLUSION, CYTOPLASMIC,-SLIGHT  
LUNG (LU):

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR FOREIGN MATERIAL,-  
PRESENT

>NOTE:>MOTTLED LUNG APPEARANCE WAS  
SECONDARY TO POST MORTEM CHANGE.  
PARATHYROID (PT):

-UNILATERALLY EXAMINED,-PRESENT

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08724      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 436.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 8:47      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: KIM LINCOLN

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV),  
SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



STUDY NUMBER: 2399110

ANIMAL NUMBER: B08724  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 8:47  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL  
SEX: MALE  
STUDY DAY OF DEATH: 96  
DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
PROSECTOR: KIM LINCOLN  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 436.4 GRAMS  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
REORDER: TIM GROVE  
WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.054	.0124 %	.0243	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.23	.511 %	1.000	WEIGHT TAKEN
HEART (HT)	1.24	.285 %	.558	WEIGHT TAKEN
SPLEEN (SP)	.75	.172 %	.336	WEIGHT TAKEN
KIDNEY (KD)	3.40	.778 %	1.525	WEIGHT TAKEN
LIVER (LI)	12.13	2.780 %	5.446	WEIGHT TAKEN
TESTIS/EPIDID (TP)	4.84	1.109 %	2.173	WEIGHT TAKEN

# CLINICAL OBSERVATIONS

APPEARED NORMAL

# PATHOLOGY OBSERVATIONS NECROPSY

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

# HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL  
-PERIBRON/PERIVAS, INFILT, NEUTROPHILS,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808723      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 513.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 9:20      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK),  
NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08723

SEX: MALE

DOSE GROUP: 4

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/21/86

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 513.9 GRAMS

PROSECTOR: KIM LINCOLN

DATE AND TIME OF NECROPSY: 07/21/86 9:20

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MODERATE  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT  
-INTERSTITIUM, FIBROSIS,-SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-CONGESTION,-MODERATE  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808722      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: UNSCHEDULED (D)      TERMINAL BODY WEIGHT: 418.1 GRAMS  
DATE OF DEATH: 06/10/86      STUDY DAY OF DEATH: 55      STUDY WEEK OF DEATH: 8      RECORDER: BARBARA DAY  
DATE AND TIME OF NECROPSY: 06/10/86 16:55      PROSECTOR: BARBARA DAY      WEIGHER: NOT REQUIRED BY PROTOCOL  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS),  
MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN),  
PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808722      SEX: MALE      DOSE GROUP: 4      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 06/10/86      STUDY WEEK OF DEATH: 8      TERMINAL BODY WEIGHT: 418.1 GRAMS  
DATE AND TIME OF NECROPSY: 06/10/86 16:55      PROSECTOR: BARBARA DAY      RECORDER: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

LUNG (LU) :

-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, LIGHT TO DARK RED  
GENERAL INFORMATION (XX) :  
>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:RED DISCHARGE  
AROUND NARES. DIED AFTER  
GAVAGING.

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT

-INTERSTITIUM, FIBROSIS,-SLIGHT  
LACRIMAL GL, EXO (EO) :

-INFLAMMATION, SUBACUTE,-MINIMAL  
LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL  
-CONGESTION,-MODERATELY SEVERE

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT  
-INTRA-ALVEOLAR FOREIGN MATERIAL,-  
PRESENT

PARATHYROID (PT) :

>SECTION EXAMINED; TISSUE NOT PRESENT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 606.6 GRAMS  
RECORDED: KIM LINCOLN  
WEIGHER: TIM GROVE

DOSE GROUP: 3  
STUDY WEEK OF DEATH: 14  
PROSECTOR: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

ANIMAL NUMBER: B08701  
SEX: MALE  
STUDY DAY OF DEATH: 98  
DATE OF DEATH: 07/23/86 9:52  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

- ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),
- BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), (KD),
- DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),
- LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),
- MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),
- ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),
- SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),
- THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08701  
DATE OF DEATH: 07/23/86  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL  
SEX: MALE  
STUDY DAY OF DEATH: 98  
PROSECTOR: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
DOSE GROUP: 3  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
TERMINAL BODY WEIGHT: 606.6 GRAMS  
REORDER: KIM LINCOLN  
WEIGHER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.044	.0073 %	.0228	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.93	.318 %	1.000	WEIGHT TAKEN
HEART (HT)	1.30	.214 %	.674	WEIGHT TAKEN
SPLEEN (SP)	.74	.122 %	.383	WEIGHT TAKEN
KIDNEY (KD)	3.65	.602 %	1.891	WEIGHT TAKEN
LIVER (LI)	19.76	3.258 %	10.238	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.28	.870 %	2.736	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-SLIGHT  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

LIVER (LI) :

-HYALINE CAST,-MINIMAL  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INFLAMMATION, SUBACUTE,-MINIMAL  
-NECROSIS, INDIVIDUAL CELL,-SLIGHT  
-HEPATOCYTE, HYPERTROPHY,-SLIGHT  
LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-PERIBRON/PERIVAS, INFILT, NEUTROPHILS,-  
MINIMAL

ANIMAL NUMBER: B08700      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 14      TERMINAL BODY WEIGHT: 562.0 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:34      PROSECTOR: PENNIE PAGE      RECORDED BY: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S		HISTOPATHOLOGY
NECROPSY		
CLINICAL OBSERVATIONS		
-APPEARED NORMAL	PANCREAS (PA) : -GELATINOUS TESTIS (TE) : -SOFT; RIGHT ^COLLECTED/TAKEN (XW) : -ELECTRON MICROSCOPY SAMPLE; LIVER GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	KIDNEY (KD) : -FOCAL MONONUCLEAR CELL INFILTRATE,- MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL -INFLAMMATION, SUBACUTE,-SLIGHT -FATTY CHANGE,-MINIMAL LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL -PNEUMONIA, INTERSTITIAL,-MODERATE PANCREAS (PA) : >UNREMARKABLE TESTIS (TE) : >UNREMARKABLE
THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:		
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)		



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08699      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 536.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:05      PROSECTOR: PENNIE PAGE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08698      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 511.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:13      PROSECTOR: PENNIE PAGE      REORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

NECROPSY

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMHIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08697  
DATE OF DEATH: 07/23/86  
DATE AND TIME OF NECROPSY: 07/23/86 8:15  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: MALE

DOSE GROUP: 3

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 445.1 GRAMS

PROSECTOR: TIM GROVE

PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

REORDER: KIM LINCOLN

WEIGHER: TIM GROVE

\*\*\* NO ORGANS/TISSUES WERE RECORDED AS HAVING BEEN SAVED \*\*\*

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APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08697 SEX: MALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 445.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:15 PROSECUTOR: TIM GROVE RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N	
				S T A T U S	
ADRENAL (AD)	.050	.0112 %	.0228	WEIGHT TAKEN	
BRAIN W/STEM (BR)	2.19	.492 %	1.000	WEIGHT TAKEN	
HEART (HT)	1.26	.283 %	.575	WEIGHT TAKEN	
SPLEEN (SP)	.73	.164 %	.333	WEIGHT TAKEN	
KIDNEY (KD)	3.57	.802 %	1.630	WEIGHT TAKEN	
LIVER (LI)	12.98	2.916 %	5.927	WEIGHT TAKEN	
TESTIS/EPIDID (TP)	4.62	1.038 %	2.110	WEIGHT TAKEN	

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XM)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808696

SEX: MALE

DOSE GROUP: 3

SACRIFICE STATUS: UNSCHEDULED (D)

STUDY DAY OF DEATH: 71

STUDY WEEK OF DEATH: 11

TERMINAL BODY WEIGHT: 603.0 GRAMS

REORDER: JAMES CANNON

WEIGHER: NOT REQUIRED BY PROTOCOL

DATE OF DEATH: 06/26/86

STUDY DAY OF DEATH: 71

PROSECTOR: JAMES CANNON

POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

PATHOLOGIST: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), \*COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO),  
CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES),  
EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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STUDY NUMBER: 2399110

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08696  
SEX: MALE  
DOSE GROUP: 3  
SACRIFICE STATUS: UNSCHEDULED (D)  
TERMINAL BODY WEIGHT: 603.0 GRAMS  
REORDER: JAMES CANNON  
WEIGHER: NOT REQUIRED BY PROTOCOL

DATE OF DEATH: 06/26/86  
STUDY DAY OF DEATH: 71  
PROSECTOR: JAMES CANNON  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

DATE AND TIME OF NECROPSY: 06/26/86 15:50  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

PATHOLOGY OBSERVATIONS  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

LUNG (LU) :  
-MOTTLED  
GENERAL INFORMATION (XX) :  
>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

ADRENAL, CORTEX (AC) :  
-UNILATERALLY EXAMINED,-PRESENT  
ADRENAL, MEDULLA (AM) :  
-UNILATERALLY EXAMINED,-PRESENT  
KIDNEY (KD) :  
-TUBULE, REGENERATION,-SLIGHT  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LACRIMAL GL, EXO (EO) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-DEGENERATION,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LUNG (LU) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR FOREIGN MATERIAL,-  
PRESENT  
-PIGMENT, BROWN,-PRESENT  
MAMMARY GLAND (MG) :  
>SECTION EXAMINED; TISSUE NOT PRESENT  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT  
PROSTATE (PR) :  
-LUMEN, DEBRIS, CELLULAR,-SLIGHT  
-INFLAMMATION, SUBACUTE,-MODERATE  
SEMINAL VESICLE (SV) :  
-LUMEN, DEBRIS, CELLULAR,-MINIMAL

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08695  
DATE OF DEATH: 07/23/86  
DATE AND TIME OF NECROPSY: 07/23/86 8:51  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: MALE

DOSE GROUP: 3

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
PROSECTOR: BARBARA DAY

TERMINAL BODY WEIGHT: 568.5 GRAMS

REORDER: KIM LINCOLN

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

KIDNEY (KD) :

-H-PELVIS, DILATED; RIGHT, SLIGHTLY.  
TESTIS (TE) :

-SOFT; RIGHT

-UNEQUALLY SIZED; RIGHT, SMALL

-COLLECTED/TAKEN (XW) :

-ELECTRON MICROSCOPY SAMPLE; LIVER

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

EPIDIDYMIS (EP) :

-UNILATERAL ATROPHY, -MODERATELY SEVERE

KIDNEY (KD) :

-TUBULE, REGENERATION, -MINIMAL

-FOCAL MONONUCLEAR CELL INFILTRATE, -

MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE, -

MINIMAL

-INFLAMMATION, SUBACUTE, -MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID, -MINIMAL

-INTRA-ALVEOLAR MACROPHAGES, -SLIGHT

TESTIS (TE) :

-UNILATERAL ATROPHY, -MODERATELY SEVERE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), THYMUS (TH), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08694 SEX: MALE DOSE GROUP: 3 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 05/16/86 STUDY DAY OF DEATH: 30 STUDY WEEK OF DEATH: 5 TERMINAL BODY WEIGHT: 418.8 GRAMS  
DATE AND TIME OF NECROPSY: 05/16/86 11:05 PROSECTOR: KIM LINCOLN RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI),  
PROSTATE (PR), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08694  
DATE OF DEATH: 05/16/86  
DATE AND TIME OF NECROPSY: 05/16/86 11:05  
SEX: MALE  
STUDY DAY OF DEATH: 30

DOSE GROUP: 3

SACRIFICE STATUS: UNSCHEDULED (D)

STUDY WEEK OF DEATH: 5

TERMINAL BODY WEIGHT: 418.8 GRAMS

PROSECTOR: KIM LINCOLN

RECORDED: KIM LINCOLN

PATHOLOGIST: NOT REQUIRED BY PROTOCOL

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-RIGHT EAR-SORE

P A T H O L O G Y    O B S E R V A T I O N S  
NECROPSY

LIVER (LI) :

-MOTTLED; LEFT LATERAL LOBE, RIGHT  
LATERAL LOBE, MEDIAN LOBE, PAPILLARY  
PROCESS, MARGINS, TAN TO DARK RED  
LUNG (LU) :  
-FAILURE TO COLLAPSE; ALL LOBES,  
PARTIALLY  
-MOTTLED; ALL LOBES, LIGHT RED TO DARK  
RED

SKIN, OTHER (SS) :

-SORE; RIGHT EAR, ONE, CRUSTY, RED, 4  
X 2 MM

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:RIGHT EAR-SORE,  
LEFT INTACT

HISTOPATHOLOGY

ADRENAL, MEDULLA (AM) :

-UNILATERALLY EXAMINED,-PRESENT

DUODENUM (DU) :

>AUTOLYTIC

ILEUM (IL) :

>AUTOLYTIC

JEJUNUM (JE) :

>AUTOLYTIC

KIDNEY (KO) :

-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-CYST,-PRESENT

LIVER (LI) :

-INFLAMMATION, SUBACUTE,-MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,

INFILTRATION, LYMPHOID,-MINIMAL

-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL

-CONGESTION,-MODERATE

SEMINAL VESICLE (SV) :

>AUTOLYTIC

SKIN, OTHER (SS) :

-INFLAMMATION, CHRONIC ACTIVE,-

MODERATELY SEVERE

STOMACH, GL (ST) :

>AUTOLYTIC

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08693 SEX: MALE DOSE GROUP: 3 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 05/20/86 STUDY DAY OF DEATH: 34 STUDY WEEK OF DEATH: 5 TERMINAL BODY WEIGHT: 457.4 GRAMS  
DATE AND TIME OF NECROPSY: 05/20/86 11:35 PROSECTOR: KIM LINCOLN REORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), THYMUS (TH), THYROID (TY), TRACHEA (TR),  
URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NERVE, SCIATIC (SN),  
PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08693  
DATE OF DEATH: 05/20/86  
DATE AND TIME OF NECROPSY: 05/20/86 11:35  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

SEX: MALE

DOSE GROUP: 3

SACRIFICE STATUS: UNSCHEDULED (D)

STUDY WEEK OF DEATH: 5

PROSECTOR: KIM LINCOLN

PATHOLOGIST: NOT REQUIRED BY PROTOCOL

TERMINAL BODY WEIGHT: 457.4 GRAMS

RECORDED: KIM LINCOLN

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-RIGHT EAR-SORE

P A T H O L O G Y    O B S E R V A T I O N S  
NECROPSY

LUNG (LU) :

-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, DARK RED TO LIGHT  
RED

SKIN, OTHER (SS) :

-SORE; RIGHT EAR, ONE, CRUSTY, RED, 4  
X 2 MM

GENERAL INFORMATION (XX) :

>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:RIGHT EAR-SORE,  
LEFT INTACT

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL

-INFLAMMATION, SUBACUTE,-SLIGHT

-HYALINE INCLUSION, CYTOPLASMIC,-SLIGHT  
LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-SLIGHT

-INTRA-ALVEOLAR MACROPHAGES,-MINIMAL

-CONGESTION,-SLIGHT

MAMMARY GLAND (MG) :

>SECTION EXAMINED; TISSUE NOT PRESENT

PARATHYROID (PT) :

-UNILATERALLY EXAMINED,-PRESENT

PROSTATE (PR) :

-INFLAMMATION, SUBACUTE,-MINIMAL

SEMINAL VESICLE (SV) :

-LUMEN, DEBRIS, CELLULAR,-MINIMAL

SKIN, OTHER (SS) :

-EAR, ARTICULAR CHONDROPATHY,-PRESENT

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STUDY NUMBER: 2399110

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08692      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 500.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:14      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: KIM LINCOLN

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808692  
SEX: MALE  
DOSE GROUP: 3  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 97  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 500.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:14  
PROSECTOR: KIM LINCOLN  
REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.060	.0120 %	.0270	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.22	.444 %	1.000	WEIGHT TAKEN
HEART (HT)	1.06	.212 %	.477	WEIGHT TAKEN
SPLEEN (SP)	1.16	.231 %	.520	WEIGHT TAKEN
KIDNEY (KD)	3.47	.694 %	1.563	WEIGHT TAKEN
LIVER (LI)	12.50	2.498 %	5.621	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.38	1.075 %	2.419	WEIGHT TAKEN

CLINICAL OBSERVATIONS  
MALOCCLUSION

GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL  
OBSERVATIONS: MALOCCLUSION

HISTOPATHOLOGY  
KIDNEY (KD):  
-TUBULE, REGENERATION, -MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -SLIGHT  
-FATTY CHANGE, -MINIMAL  
-COAGULATIVE NECROSIS, -MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOCYTES, -SLIGHT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
SEMINAL VESICLE (SU), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

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STUDY NUMBER: 2399110

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08691      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 628.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:29      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROUE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: DOUGLAS HERNDON

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08691      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 628.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:29      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.069	.0110 %	.0307	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.24	.357 %	1.000	WEIGHT TAKEN
HEART (HT)	1.96	.312 %	.874	WEIGHT TAKEN
SPLEEN (SP)	.98	.155 %	.435	WEIGHT TAKEN
KIDNEY (KO)	3.98	.634 %	1.775	WEIGHT TAKEN
LIVER (LI)	15.56	2.476 %	6.935	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.70	.907 %	2.541	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-RIGHT EYE-CHROMODACRYORRHEA, OPAQUE

PATHOLOGY OBSERVATIONS  
NECROPSY

EYE (EY) :  
-EXTERNAL, OPAQUE; RIGHT  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:RIGHT EYE-  
CHROMODACRYORRHEA, OPAQUE

HISTOPATHOLOGY

EYE (EY) :  
-PANOPHTHALMITIS,-MODERATELY SEVERE  
KIDNEY (KO) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

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STUDY NUMBER: 2399110

ANIMAL NUMBER: B08690      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 455.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 11:05      PROSECTOR: LINDA RUMBLE      REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHT: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808689      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 605.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:12      PROSECTOR: BARBARA DAY      RECORDED: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08688  
SEX: MALE  
DOSE GROUP: 3  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 14  
TERMINAL BODY WEIGHT: 480.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:08  
PROSECTOR: BARBARA DAY  
REORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS	NECROPSY	HISTOPATHOLOGY
-MALOCCLUSION	^COLLECTED/TAKEN (XW) : -ELECTRON MICROSCOPY SAMPLE; LIVER GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:MALOCCLUSION	KIDNEY (KD) : -TRANSITIONAL EPITHELIUM, HYPERPLASIA,- SLIGHT -SUPPURATIVE PYELITIS,-MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL -INFLAMMATION, SUBACUTE,-MINIMAL LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL
THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY: ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)		

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08687      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 532.6 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PROSECTOR: DOUGLAS HERNDON      RECORDER: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

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STUDY NUMBER: 2399110

ANIMAL NUMBER: B08686      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      TERMINAL BODY WEIGHT: 534.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 13:30      PROSECTOR: KIM LINCOLN      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: KIM LINCOLN

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808686 SEX: MALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14  
DATE AND TIME OF NECROPSY: 07/21/86 13:30 PROSECTOR: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP RECORDER: TIM GROVE  
WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	STATUS
ADRENAL (AD)	.084	.0157 %	.0370	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.27	.424 %	1.000	WEIGHT TAKEN
HEART (HT)	1.67	.312 %	.736	WEIGHT TAKEN
SPLEEN (SP)	.74	.138 %	.325	WEIGHT TAKEN
KIDNEY (KD)	3.66	.685 %	1.614	WEIGHT TAKEN
LIVER (LI)	14.31	2.678 %	6.314	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.28	.988 %	2.328	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS: NONE

HISTOPATHOLOGY

KIDNEY (KD):

-TUBULE, REGENERATION, -MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

LIVER (LI):

-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL

LUNG (LU):

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -SLIGHT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

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APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08685      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 530.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:44      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08685 SEX: MALE DOSE GROUP: 3 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86 STUDY DAY OF DEATH: 96 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 530.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 10:44 PROSECTOR: LINDA RUMBLE REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.066	.0125 %	.0306	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.17	.409 %	1.000	WEIGHT TAKEN
HEART (HT)	1.55	.291 %	.713	WEIGHT TAKEN
SPLEEN (SP)	.85	.160 %	.391	WEIGHT TAKEN
KIDNEY (KD)	3.42	.644 %	1.575	WEIGHT TAKEN
LIVER (LI)	13.21	2.488 %	6.085	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.79	1.090 %	2.666	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS

NECROPSY

GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD):  
-FOCAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
-INFLAMMATION, SUBACUTE, -SLIGHT  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR INFILTRATION, LYMPHOID, -SLIGHT  
-PNEUMONIA, INTERSTITIAL, -SLIGHT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SP), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08684  
SEX: MALE  
STUDY DAY OF DEATH: 96  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 10:18  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 3  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 568.5 GRAMS  
PROSECTOR: DOUGLAS HERNDON  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
WEIGHER: NOT REQUIRED BY PROTOCOL

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STUDY NUMBER: 2399110

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
LUNG (LU) :  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08683  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 9:24  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE

DOSE GROUP: 3

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 474.8 GRAMS

PROSECTOR: BARBARA DAY

REORDER: TIM GROVE

WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808682  
SEX: MALE  
STUDY DAY OF DEATH: 96  
PROSECTOR: BARBARA DAY  
DATE OF DEATH: 07/21/86  
DATE AND TIME OF NECROPSY: 07/21/86 8:46  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 3  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 510.8 GRAMS  
RECORDED: TIM GROVE  
WEIGHER: BARBARA DAY

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STUDY NUMBER: 2399110

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808682      SEX: MALE      DOSE GROUP: 3      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 510.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 8:46      PROSECTOR: BARBARA DAY      REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHER: BARBARA DAY

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.045	.0088 %	.0225	WEIGHT TAKEN
BRAIN W/STEM (BR)	1.99	.389 %	1.000	WEIGHT TAKEN
HEART (HT)	1.34	.263 %	.677	WEIGHT TAKEN
SPLEEN (SP)	.85	.167 %	.429	WEIGHT TAKEN
KIDNEY (KD)	3.17	.620 %	1.594	WEIGHT TAKEN
LIVER (LI)	17.88	3.500 %	8.995	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.16	1.010 %	2.595	WEIGHT TAKEN

CLINICAL OBSERVATIONS      PATHOLOGY OBSERVATIONS      NECROPSY

APPEARED NORMAL

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), <COLLECTED/TAKEN (XW)

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APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08661      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 498.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 13:35      PROSECTOR: TIM GROVE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: TIM GROVE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

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STUDY NUMBER: 2399110

ANIMAL NUMBER: B08661  
DATE OF DEATH: 07/23/86  
DATE AND TIME OF NECROPSY: 07/23/86 13:35  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL  
SEX: MALE  
STUDY DAY OF DEATH: 98  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
PROSECTOR: TIM GROVE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 498.3 GRAMS  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
RECORDER: KIM LINCOLN  
WEIGHER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.048	.0096 %	.0238	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.02	.405 %	1.000	WEIGHT TAKEN
HEART (HT)	1.09	.219 %	.540	WEIGHT TAKEN
SPLEEN (SP)	.60	.120 %	.297	WEIGHT TAKEN
KIDNEY (KD)	2.90	.582 %	1.436	WEIGHT TAKEN
LIVER (LI)	10.87	2.181 %	5.381	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.09	1.021 %	2.520	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD):  
-FOCAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
-INFLAMMATION, SUBACUTE, MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR INFILTRATION, LYMPHOID, MINIMAL  
-PNEUMONIA, INTERSTITIAL, MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXD (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, RECTUM (RE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

APPENDIX 8

\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08660      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 490.5 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:12      PROSECTOR: BARBARA DAY      RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

NECROPSY

-MALOCCLUSION

>COLLECTED/TAKEN (XW) :  
>ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL  
OBSERVATIONS: MALOCCLUSION

KIDNEY (KD) :

-TUBULE, REGENERATION, -MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
ADRENAL, CORTIS (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
BRAIN W/STEM (BR), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO),  
DUODENUM (DU), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), PITUITARY (PT), PROSTATE (PR), RECTUM (RE),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PT), SPLEEN (SP), STOMACH, GL (ST), STOMACH, HONG (SU), TESTIS (TE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), URINARY BLADDER (UB)  
THYMUS (TH), THYROID (TY), TRACHEA (TR)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808659

SEX: MALE

DOSE GROUP: 2

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

DATE OF DEATH: 07/23/86

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 481.5 GRAMS

DATE AND TIME OF NECROPSY: 07/23/86 13:35

PROSECTOR: DOUGLAS HERNDON

REORDER: KIM LINCOLN

POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

WEIGHER: DOUGLAS HERNDON

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: 808659  
SEX: MALE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
DATE AND TIME OF NECROPSY: 07/23/86 13:35  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 481.5 GRAMS  
PROSECTOR: DOUGLAS HERNDON  
RECORDER: KIM LINCOLN  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
WEIGHER: DOUGLAS HERNDON

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.071	.0147 %	.0335	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.12	.440 %	1.000	WEIGHT TAKEN
HEART (HT)	1.87	.388 %	.882	WEIGHT TAKEN
SPLEEN (SP)	1.05	.218 %	.495	WEIGHT TAKEN
KIDNEY (KD)	8.31	1.726 %	3.920	WEIGHT TAKEN
LIVER (LI)	17.33	3.599 %	8.175	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.08	1.055 %	2.396	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

KIDNEY (KD):  
-GRANULAR/PITTED/ROUGH; BOTH, PITTED  
-ENLARGED; BOTH  
GENERAL INFORMATION (XX):  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KO):  
-TUBULE, REGENERATION,-MODERATELY SEVERE  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MODERATELY SEVERE  
-INTERSTITIUM, FIBROSIS,-MODERATELY SEVERE  
-HYALINE CAST,-MODERATELY SEVERE  
-NEPHROPATHY, CHRONIC PROGRESSIVE,-MODERATELY SEVERE  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08658      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 561.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:18      PROSECTOR: TIM GROVE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: TIM GROVE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08658 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 561.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:18 PROSECUTOR: TIM GROVE RECORDED: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N S T A T U S	
				WEIGHT TAKEN	WEIGHT TAKEN
ADRENAL (AD)	.049	.0087 %	.0238	WEIGHT TAKEN	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.06	.367 %	1.000	WEIGHT TAKEN	WEIGHT TAKEN
HEART (HT)	1.41	.251 %	.684	WEIGHT TAKEN	WEIGHT TAKEN
SPLEEN (SP)	.69	.123 %	.335	WEIGHT TAKEN	WEIGHT TAKEN
KIDNEY (KD)	3.88	.691 %	1.883	WEIGHT TAKEN	WEIGHT TAKEN
LIVER (LI)	14.98	2.669 %	7.272	WEIGHT TAKEN	WEIGHT TAKEN
TESTIS/EPIDID (TP)	6.05	1.078 %	2.937	WEIGHT TAKEN	WEIGHT TAKEN

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS  
-APPEARED NORMAL  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:  
ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXD (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XM)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08657 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 07/11/86 STUDY DAY OF DEATH: 86 STUDY WEEK OF DEATH: 13 TERMINAL BODY WEIGHT: 567.8 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PROSECTOR: BARBARA DAY RECORDER: BARBARA DAY  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SU), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EYE (EY), ILEUM (IL), JEJUNUM (JE), LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NERVE, SCIATIC (SN), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI),  
RECTUM (RE), SKIN (SK), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08657      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 07/11/86      STUDY DAY OF DEATH: 13      TERMINAL BODY WEIGHT: 567.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/11/86 14:35      PROSECTOR: BARBARA DAY      REORDER: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S		HISTOPATHOLOGY
CLINICAL OBSERVATIONS		
-APPEARED NORMAL		
LUNG (LU) :		EPIDIDYMIIS (EP) :
-FAILURE TO COLLAPSE; ALL LOBES		-FOCAL MONONUCLEAR CELL INFILTRATE,-
-MOTTLED; ALL LOBES, LIGHT TO DARK RED		SLIGHT
GENERAL INFORMATION (XX) :		ESOPHAGUS (ES) :
>NOTE:>LAST IN-LIFE AND EXTERNAL		-FOCAL MYODEGENERATION,-SLIGHT
OBSERVATIONS:NONE		HEART (HT) :
		-INFLAMMATION, SUBACUTE,-MINIMAL
		KIDNEY (KD) :
		-TUBULE, REGENERATION,-MINIMAL
		-CONGESTION,-SLIGHT
		LACRIMAL GL, EXD (EO) :
		-INFLAMMATION, SUBACUTE,-MINIMAL
		-DEGENERATION,-MINIMAL
		LIVER (LI) :
		-PORTAL MONONUCLEAR CELL INFILTRATE,-
		MINIMAL
		-INFLAMMATION, SUBACUTE,-MINIMAL
		-FATTY CHANGE,-MINIMAL
		LUNG (LU) :
		-PERIBRONCHIAL/PERIVASCULAR,
		INFILTRATION, LYMPHOID,-MINIMAL
		-INTRA-ALVEOLAR FOREIGN MATERIAL,-
		PRESENT
		-CONGESTION,-SLIGHT
		PROSTATE (PR) :
		-LUMEN, DEBRIS, CELLULAR,-MINIMAL
		SEMINAL VESICLE (SV) :
		-LUMEN, DEBRIS, CELLULAR,-MINIMAL

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808656      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 649.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:15      PROSECTOR: PENNIE PAGE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: PENNIE PAGE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08656 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 649.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:15 PROSECTOR: PENNIE PAGE RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHER: PENNIE PAGE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN S T A T U S
ADRENAL (AD)	.063	.0097 %	.0278	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.27	.350 %	1.000	WEIGHT TAKEN
HEART (HT)	1.77	.273 %	.780	WEIGHT TAKEN
SPLEEN (SP)	.72	.111 %	.317	WEIGHT TAKEN
KIDNEY (KD)	3.95	.609 %	1.740	WEIGHT TAKEN
LIVER (LI)	18.01	2.775 %	7.934	WEIGHT TAKEN
TESTIS/EPIDID (TP)	4.92	.758 %	2.167	WEIGHT TAKEN

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AD), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08655 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 465.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 8:44 PROSECTOR: DOUGLAS HERNDON REORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

PATHOLOGY OBSERVATIONS

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08654  
SEX: MALE  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 97  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 554.4 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 12:03  
PROSECTOR: LINDA RUMBLE  
REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S	
CLINICAL OBSERVATIONS	HISTOPATHOLOGY
-APPEARED NORMAL	KIDNEY (KD) : -TUBULE, REGENERATION, -MINIMAL -FOCAL MONONUCLEAR CELL INFILTRATE, - MINIMAL LIVER (LI) : -PORTAL MONONUCLEAR CELL INFILTRATE, - MINIMAL -INFLAMMATION, SUBACUTE, -MINIMAL -FATTY CHANGE, -MINIMAL LUNG (LU) : -PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL
NECROPSY	
^COLLECTED/TAKEN (XW) : -ELECTRON MICROSCOPY SAMPLE; LIVER GENERAL INFORMATION (XX) : >NOTE:>EXTERNAL OBSERVATIONS:NONE	
THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY: ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)	

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08653  
DATE OF DEATH: 07/22/86  
DATE AND TIME OF NECROPSY: 07/22/86 13:31  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL  
SEX: MALE  
STUDY DAY OF DEATH: 97  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
PROSECTOR: LINDA RUMBLE  
TERMINAL BODY WEIGHT: 612.8 GRAMS  
PATHOLOGIST: RICARDO QUANDER, DVM, DACUP  
RECORDER: TIM GROVE  
WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08653 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 612.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 13:31 PROSECTOR: LINDA RUMBLE REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACUP WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N S T A T U S	
				WEIGHT TAKEN	WEIGHT TAKEN
ADRENAL (AD)	.059	.0096 %	.0262	1.000	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.25	.368 %		.757	WEIGHT TAKEN
HEART (HT)	1.70	.278 %		.374	WEIGHT TAKEN
SPLEEN (SP)	.84	.137 %		1.473	WEIGHT TAKEN
KIDNEY (KD)	3.32	.542 %		6.303	WEIGHT TAKEN
LIVER (LI)	14.20	2.317 %		3.054	WEIGHT TAKEN
TESTIS/EPIDID (TP)	6.88	1.123 %			

P A T H O L O G Y O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL  
OBSERVATIONS: MALOCCLUSION

KIDNEY (KD) :  
-TUBULE, REGENERATION, -MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE, -MINIMAL

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
-FATTY CHANGE, -MINIMAL

LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID, -MINIMAL  
-PERIBRON/PERIVAS, INFILT, NEUTROPHILS, -MINIMAL

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808652  
DATE OF DEATH: 07/22/86  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL

SEX: MALE

STUDY DAY OF DEATH: 97

DOSE GROUP: 2

SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE

STUDY WEEK OF DEATH: 14

TERMINAL BODY WEIGHT: 517.8 GRAMS

PROSECTOR: KIM LINCOLN

PATHOLOGIST: RICARDO QUANDER, DVM, DACUP

REORDER: TIM GROVE

WEIGHER: KIM LINCOLN

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08652 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 517.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:20 PROSECTOR: KIM LINCOLN REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: KIM LINCOLN

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N	
				W E I G H T	T A K E N
ADRENAL (AD)	.083	.0160 %	.0344	W E I G H T	T A K E N
BRAIN W/STEM (BR)	2.42	.467 %	1.000	W E I G H T	T A K E N
HEART (HT)	1.47	.284 %	.609	W E I G H T	T A K E N
SPLEEN (SP)	.85	.163 %	.350	W E I G H T	T A K E N
KIDNEY (KD)	2.84	.549 %	1.176	W E I G H T	T A K E N
LIVER (LI)	12.75	2.463 %	5.278	W E I G H T	T A K E N
TESTIS/EPIDID (TP)	5.39	1.041 %	2.231	W E I G H T	T A K E N

P A T H O L O G Y O B S E R V A T I O N S  
NECROPSY

CLINICAL OBSERVATIONS

---APPEARED NORMAL---

GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-PNEUMONIA, INTERSTITIAL,-MODERATE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, RL (ST), STOMACH, NONFL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08651      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 537.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:12      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
POST-FIX WEIGHER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08651  
SEX: MALE  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86  
STUDY DAY OF DEATH: 97  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 537.1 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 8:12  
PROSECTOR: LINDA RUMBLE  
REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP  
WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	O R G A N S T A T U S	
				WEIGHT TAKEN	WEIGHT TAKEN
ADRENAL (AD)	.060	.0112 %		.0256	
BRAIN W/STEM (BR)	2.36	.440 %		1.000	
HEART (HT)	1.54	.286 %		.650	
SPLEEN (SP)	.82	.153 %		.349	
KIDNEY (KD)	3.69	.686 %		1.561	
LIVER (LI)	12.85	2.392 %		5.438	
TESTIS/EPIDID (TP)	5.45	1.014 %		2.306	

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

APPEARED NORMAL

GENERAL INFORMATION (XX) :

>NOTE:>EXTERNAL OBSERVATIONS:NONE

NECROPSY

HISTOPATHOLOGY

KIDNEY (KD) :

-FOCAL MONONUCLEAR CELL INFILTRATE,- MINIMAL

LIVER (LI) :

-PORTAL MONONUCLEAR CELL INFILTRATE,- MINIMAL

LUNG (LU) :

-INFLAMMATION, SUBACUTE,-MINIMAL

-PERIBRONCHIAL/PERIVASCULAR, INFILTRATION, LYMPHOID,-MINIMAL

-PERIBRON/PERIVAS, INFILT, NEUTROPHILS,- MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XU)

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08650      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86      STUDY DAY OF DEATH: 97      PROSECTOR: DOUGLAS HERNDON      TERMINAL BODY WEIGHT: 505.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 10:56      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      RECORDER: TIM GROVE  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

LIVER (LI) :  
-INFLAMMATION, SUBACUTE, -SLIGHT  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:  
KIDNEY (KD)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

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STUDY NUMBER: 2399110

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS  
INDIVIDUAL ANIMAL SUMMARY REPORT

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

ANIMAL NUMBER: B08649 SEX: MALE DOSE GROUP: 2 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/22/86 STUDY DAY OF DEATH: 97 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 557.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/22/86 9:58 PROSECTOR: DOUGLAS HERNDON REORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S  
NECROPSY

HISTOPATHOLOGY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KO),  
LACRIMAL GL, EXO (EO), LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN),  
ORGANS, MULTIPLE (OG), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE),  
SEMINAL VESICLE (SV), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808648      SEX: MALE      DOSE GROUP: 2      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86      STUDY DAY OF DEATH: 96      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 381.9 GRAMS  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PROSECTOR: LINDA RUMBLE      RECORDER: TIM GROVE  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: LINDA RUMBLE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), EPIDIDYMIS (EP), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), PROSTATE (PR), RECTUM (RE), SEMINAL VESICLE (SV), SKIN (SK),  
SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), TESTIS (TE), THYMUS (TH), THYROID (TY),  
TRACHEA (TR), URINARY BLADDER (UB), ^COLLECTED/TAKEN (XW)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08648  
SEX: MALE  
DOSE GROUP: 2  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/21/86  
STUDY DAY OF DEATH: 96  
STUDY WEEK OF DEATH: 14  
TERMINAL BODY WEIGHT: 381.9 GRAMS  
DATE AND TIME OF NECROPSY: 07/21/86 8:48  
PROSECTOR: LINDA RUMBLE  
RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL  
PATHOLOGIST: RICARDO QUANDER, DUM, DACUP  
WEIGHER: LINDA RUMBLE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.088	.0231 %	.0403	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.19	.574 %	1.000	WEIGHT TAKEN
HEART (HT)	1.63	.426 %	.741	WEIGHT TAKEN
SPLEEN (SP)	1.15	.300 %	.523	WEIGHT TAKEN
KIDNEY (KD)	7.84	2.052 %	3.574	WEIGHT TAKEN
LIVER (LI)	16.00	4.188 %	7.296	WEIGHT TAKEN
TESTIS/EPIDID (TP)	5.47	1.433 %	2.497	WEIGHT TAKEN

PATHOLOGY OBSERVATIONS  
NECROPSY

CLINICAL OBSERVATIONS

-APPEARED NORMAL

KIDNEY (KD) :  
-PALE; BOTH, TAN  
-GRANULAR/PITTED/ROUGH; BOTH, PITTED,  
SLIGHT  
-ENLARGED; BOTH, MODERATELY  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-SEVERE  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MODERATELY SEVERE  
-INTERSTITIUM, FIBROSIS,-MODERATELY  
SEVERE  
-HYALINE CAST,-SEVERE  
-NEPHROPATHY, CHRONIC PROGRESSIVE,-  
SEVERE  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08756      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 07/18/86      STUDY DAY OF DEATH: 93      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 218.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/18/86 15:00      PROSECUTOR: BARBARA DAY      RECORDER: BARBARA DAY  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      MEASURER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ~COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LIVER (LI),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PARATHYROID (PT), RECTUM (RE), SKIN (SK), STOMACH, GL (ST), STOMACH, NONGL (SU),  
THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

ANIMAL NUMBER: B08757 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 265.7 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 10:48 PROSECTOR: BARBARA DAY RECORDED: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y O B S E R V A T I O N S

CLINICAL OBSERVATIONS

HISTOPATHOLOGY

-APPEARED NORMAL

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE, -  
MINIMAL  
-INFLAMMATION, SUBACUTE, -MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID, -SLIGHT

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LH), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

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INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808758  
SEX: FEMALE  
DATE OF DEATH: 07/23/86  
STUDY DAY OF DEATH: 98  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

DOSE GROUP: 4  
SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
STUDY WEEK OF DEATH: 14  
PROSECTOR: DOUGLAS HERNDON  
PATHOLOGIST: RICARDO QUANDER, DVM, DACVP

TERMINAL BODY WEIGHT: 284.3 GRAMS  
RECORDER: KIM LINCOLN  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y   O B S E R V A T I O N S  
NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

BONE, FEMUR (FE) :  
-ARTICULAR SURFACE, NOT PRESENT,-  
PRESENT  
KIDNEY (KD) :  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
MUSCLE, SKELETAL (SM) :  
>TISSUE MISSING  
NERVE, SCIATIC (SN) :  
>TISSUE MISSING  
PARATHYROID (PT) :  
-UNILATERALLY EXAMINED,-PRESENT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08758      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 284.3 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:40      PROSECTOR: DOUGLAS HERNDON      REORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SK), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, STERNUM (SB), BRAIN W/STEM (BR), CECUM (CE),  
COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC), DUODENUM (DU), ESOPHAGUS (ES), EYE (EY),  
HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO), LN, MESENTERIC (MS), MAMMARY GLAND (MG),  
MAND SALIVARY GL (SG), MARROW, STERNUM (SE), OVARY (OV), PANCREAS (PA), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX B  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 445

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: 808759  
DATE OF DEATH: 07/18/86  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL

SEX: FEMALE  
STUDY DAY OF  
DEATH: 93

DOSE GROUP: 4  
PROSECUTOR: BARBARA DAY  
PATHOLOGIST: NOT REQUIRED BY PROTOCOL

SACRIFICE STATUS: UNSCHEDULED (D)

TERMINAL BODY WEIGHT: 332.8 GRAMS  
RECORDED: TIM GROVE  
WEIGHER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

CLINICAL OBSERVATIONS

-APPEARED NORMAL

P A T H O L O G Y    O B S E R V A T I O N S  
NECROPSY

LUNG (LU) :

-FAILURE TO COLLAPSE; ALL LOBES  
-MOTTLED; ALL LOBES, LIGHT TO DARK RED  
GENERAL INFORMATION (XX) :  
>NOTE:>LAST IN-LIFE AND EXTERNAL  
OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :

-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
SLIGHT

LIVER (LI) :

-INFLAMMATION, ACUTE,-MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
-FATTY CHANGE,-MINIMAL

LUNG (LU) :

-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
-INTRA-ALVEOLAR FOREIGN MATERIAL,-  
PRESENT  
-CONGESTION,-SLIGHT

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: 808759      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: UNSCHEDULED (D)  
DATE OF DEATH: 07/18/86      STUDY DAY OF DEATH: 93      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 332.8 GRAMS  
DATE AND TIME OF NECROPSY: 07/18/86 15:33      PROSECTOR: BARBARA DAY      RECORDER: TIM GROVE  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: NOT REQUIRED BY PROTOCOL      WEIGHER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE),  
MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG), OVARY (OV), PANCREAS (PA),  
PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP), STOMACH, GL (ST),  
STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT), ^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB),  
UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



STUDY NUMBER: 2399110

ANIMAL NUMBER: B08760      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 258.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:00      PROSECTOR: TIM GROVE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACVP      WEIGHER: TIM GROVE

ORGAN NAME	ABSOLUTE ORGAN WEIGHT (GRAMS)	ORGAN WEIGHT RELATIVE TO BODY WEIGHT (%)	ORGAN TO BRAIN WEIGHT RATIO	ORGAN STATUS
ADRENAL (AD)	.057	.0220 %	.0282	WEIGHT TAKEN
OVARY (OV)	.101	.0391 %	.0500	WEIGHT TAKEN
BRAIN W/STEM (BR)	2.02	.781 %	1.000	WEIGHT TAKEN
HEART (HT)	.83	.321 %	.411	WEIGHT TAKEN
SPLEEN (SP)	.50	.193 %	.248	WEIGHT TAKEN
KIDNEY (KD)	2.05	.793 %	1.015	WEIGHT TAKEN
LIVER (LI)	7.77	3.005 %	3.847	WEIGHT TAKEN

CLINICAL OBSERVATIONS

-APPEARED NORMAL

PATHOLOGY OBSERVATIONS  
NECROPSY

GENERAL INFORMATION (XX):

>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD):  
-FOCAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
LIVER (LI):  
-PORTAL MONONUCLEAR CELL INFILTRATE, MINIMAL  
-INFLAMMATION, SUBACUTE, MINIMAL  
LUNG (LU):  
-PERIBRONCHIAL/PERIVASCULAR INFILTRATION, LYMPHOID, MINIMAL  
PANCREAS (PA):  
-INFLAMMATION, SUBACUTE, MINIMAL

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

STUDY NUMBER: 2399110

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08760 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 258.6 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 9:00 PROSECTOR: TIM GROVE RECORDER: KIM LINCOLN  
POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHER: TIM GROVE

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL, EXO (EO),  
LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SKIN, OTHER (SS), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT),  
^COLLECTED/TAKEN (XW)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL, EXO (EO),  
LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
NERVE, SCIATIC (SN), OVARY (OV), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), SPLEEN (SP),  
STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), THYROID (TY), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*

HAZLETON LABORATORIES AMERICA, INC.  
DEPARTMENT OF PATHOLOGY

APPENDIX 8  
\*\*\* PATH/TOX SYSTEM OUTPUT \*\*\*  
SUBCHRONIC TOXICITY STUDY IN RATS

PRINTED: 04-MAY-88  
PAGE: 449

INDIVIDUAL ANIMAL SUMMARY REPORT

STUDY NUMBER: 2399110

ANIMAL NUMBER: B08761      SEX: FEMALE      DOSE GROUP: 4      SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
DATE OF DEATH: 07/23/86      STUDY DAY OF DEATH: 98      STUDY WEEK OF DEATH: 14      TERMINAL BODY WEIGHT: 283.2 GRAMS  
DATE AND TIME OF NECROPSY: 07/23/86 11:57      PROSECTOR: PENNIE PAGE      RECORDER: KIM LINCOLN  
POST-FIX WEIGHTER: NOT REQUIRED BY PROTOCOL      PATHOLOGIST: RICARDO QUANDER, DVM, DACUP      WEIGHTER: NOT REQUIRED BY PROTOCOL

\*\*\* ANIMAL HAS NO ORGAN WEIGHTS RECORDED \*\*\*

P A T H O L O G Y   O B S E R V A T I O N S

CLINICAL OBSERVATIONS

-APPEARED NORMAL

NECROPSY

^COLLECTED/TAKEN (XW) :  
-ELECTRON MICROSCOPY SAMPLE; LIVER  
GENERAL INFORMATION (XX) :  
>NOTE:>EXTERNAL OBSERVATIONS:NONE

HISTOPATHOLOGY

KIDNEY (KD) :  
-TUBULE, REGENERATION,-MINIMAL  
-FOCAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
LIVER (LI) :  
-PORTAL MONONUCLEAR CELL INFILTRATE,-  
MINIMAL  
-INFLAMMATION, SUBACUTE,-MINIMAL  
LUNG (LU) :  
-PERIBRONCHIAL/PERIVASCULAR,  
INFILTRATION, LYMPHOID,-MINIMAL  
URINARY BLADDER (UB) :  
>TISSUE MISSING

INDIVIDUAL ANIMAL SUMMARY REPORT

ANIMAL NUMBER: B08761 SEX: FEMALE DOSE GROUP: 4 SACRIFICE STATUS: SCHEDULED, TERMINAL SACRIFICE  
 DATE OF DEATH: 07/23/86 STUDY DAY OF DEATH: 98 STUDY WEEK OF DEATH: 14 TERMINAL BODY WEIGHT: 283.2 GRAMS  
 DATE AND TIME OF NECROPSY: 07/23/86 11:57 PROSECTOR: PENNIE PAGE REORDER: KIM LINCOLN  
 POST-FIX WEIGHT: NOT REQUIRED BY PROTOCOL PATHOLOGIST: RICARDO QUANDER, DVM, DACVP WEIGHTER: NOT REQUIRED BY PROTOCOL

THE FOLLOWING ORGANS WERE UNREMARKABLE AT NECROPSY:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
 BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
 DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), KIDNEY (KD), LACRIMAL GL., EXO (EO),  
 LIVER (LI), LN, MESENTERIC (MS), LN, OTHER (LN), LUNG (LU), MAMMARY GLAND (MG), MAND SALIVARY GL (SG),  
 MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM), NASAL TURBINATE (NT), NERVE, SCIATIC (SN), ORGANS, MULTIPLE (OG),  
 OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK), OTHER (SS), SPLEEN (SP),  
 STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), URINARY BLADDER (UB), UTERUS (UT)

THE FOLLOWING TISSUES WERE UNREMARKABLE AT MICROSCOPIC EXAMINATION:

ADRENAL, CORTEX (AC), ADRENAL, MEDULLA (AM), AORTA, THORACIC (AO), BONE, FEMUR (FE), BONE, STERNUM (SB),  
 BRAIN W/STEM (BR), CECUM (CE), COLON (CO), CORD, CERVICAL (CS), CORD, LUMBAR (LC), CORD, THORACIC (TC),  
 DUODENUM (DU), ESOPHAGUS (ES), EYE (EY), HEART (HT), ILEUM (IL), JEJUNUM (JE), LACRIMAL GL., EXO (EO),  
 LN, MESENTERIC (MS), MAMMARY GLAND (MG), MAND SALIVARY GL (SG), MARROW, STERNUM (SE), MUSCLE, SKELETAL (SM),  
 NERVE, SCIATIC (SN), OVARY (OV), PANCREAS (PA), PARATHYROID (PT), PITUITARY (PI), RECTUM (RE), SKIN (SK),  
 SPLEEN (SP), STOMACH, GL (ST), STOMACH, NONGL (SU), THYMUS (TH), TRACHEA (TR), UTERUS (UT)

\*\*\* ALL ORGANS/TISSUES (REQUIRED TO BE HARVESTED PER THE STUDY PROTOCOL) WERE SAVED \*\*\*



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HLA 2399-110

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**APPENDIX 9**

**Analytical Chemistry Report**



SPONSOR: DYNAMAC CORPORATION.

MATERIAL: P-XYLENE (P-XYLOL) CAS 106-42-3

SUBJECT: FINAL REPORT  
Subchronic Toxicity Study  
p-Xylene in Corn Oil Gavage Formulations  
Project No. 2399-110

1. OBJECTIVE:

The purpose of this study was to perform chemical analyses of corn oil gavage formulations to determine dose concentrations of p-xylene in preparations used for toxicity testing in rats.

2. MATERIAL:

The p-xylene used in this study, Lot #235 855, was obtained from Fluka Chemical Corporation, Hauppauge, New York. It was received in three shipments (March 6, April 17, and April 30, 1986) and assigned LH Nos. 10,032A, B, and C. The manufacturer's stated purity was 99%.

3. METHOD AND PROCEDURES

A. Method

The method for the determination of p-xylene in corn oil gavage preparations was developed by Hazleton Biotechnologies Company. In brief, p-xylene is extracted from the corn oil by shaking with methanol. Following centrifugation, appropriate dilutions are made of the extracts, incorporating n-propylbenzene as the internal standard. The extracts are analyzed by gas chromatography (GC) using a flame ionization detector. Matrix standard solutions carried through the procedure are used for the standard curve and instrument calibration. The complete method is included in this report in Attachment A.

Analysis of corn oil for peroxides was performed using a modification of the Official Method Cd. 8-53 of the A.O.C.S. (1972). It determines all substances, in terms of milliequivalents (meq) of peroxide per 1000 grams of sample, which oxidize aqueous iodide under the conditions of the test. The complete method is included in Attachment A.



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### 3. METHOD AND PROCEDURES (Continued)

#### B. Procedures

The chemical characterization of the test material was performed prior to the study start. Identity was determined using infrared (IR), nuclear magnetic resonance (NMR), and mass spectrometry (MS) spectral techniques. Elemental analysis and the determination of water using the Karl Fischer technique were also carried out. A gas chromatographic (GC) scan was run to assess the purity of the chemical.

Upon receipt of the test material, aliquots were taken and stored at -20°C for use as reference standards for subsequent reanalysis. At the end of the study, GC scans for purity were performed on the bulk chemical and the reference standard to assess the integrity of the test chemical under the storage conditions during the study.

The initial method validation was performed on matrix standards at 4 levels of concentration (excluding 0). Four standards were prepared at the high and low levels and a single standard at each midpoint. Linear regression analysis was carried out on the results of the standard curve.

In addition, analyses of gavage preparations at the high and low levels of concentration were carried out on two different days to show linearity, precision, accuracy, and reproducibility of the method.

Stability of p-xylene in the corn oil gavage preparations at the high and low dosage concentrations was determined after 7, 14, and 21 days of storage at room temperature and at 5°C.

Dose verification analyses of the corn oil gavage formulations were performed at Weeks 1, 5, 9, and 13 of the study.

Each batch of corn oil used for the preparation of gavage dosing formulations was analyzed for peroxides prior to its first use and at monthly intervals thereafter.

### 4. RESULTS AND CONCLUSIONS

The purity and identity data for the chemical characterization of the test material are presented in this report as Attachment B.

Tables 1 and 2 contain the analytical method validation data for the determination of p-xylene in corn oil gavage formulations. The RSDs for the four analyses at the high and low points on the standard curve,  $\pm 0.24\%$  and



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#### 4. RESULTS AND CONCLUSION (Continued)

+ 0.29%, respectively, show excellent precision. The correlation coefficients presented in both tables demonstrate linearity within the range of 0.20 to 1.0 ug p-xylene injected.

Analyses of the gavage samples at the high and low dose concentrations on different days show good method reproducibility and accuracy.

Stability data for p-xylene in corn oil gavage formulations at 40.4 and 323.2 mg/mL concentrations stored at 5°C and room temperature are presented in Tables 3 and 4. After 21 days there was no loss for samples stored at 5°C and a mean loss of 0.9% for those stored at room temperature. These data clearly demonstrate the stability of p-xylene in corn oil required for this study.

Results of the dose verification analyses of the gavage preparations for p-xylene can be found in Table 5. All of the samples analyzed were within the acceptable + 10% of target concentration. Nine of twelve samples had < 1.5% agreement between duplicate analyses.

Table 6 presents a summary of the analyses performed to determine peroxides in corn oil. For this study, corn oil with a peroxide number equal to or greater than 10 meq/kg was considered rancid and not acceptable for use. The peroxide number for each analysis was well below the acceptable limit. Copies of the individual reports are included to provide detailed information about the corn oil used and the cumulative results of testing.

Reported by:

Lee Hohing  
Lee Hohing  
Research Associate

12-19-86  
Date

Approved by:

Susan A. Lewis  
Susan A. Lewis, Ph.D.  
Staff Scientist





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PROJECT NO. 2399-110

TABLE 1

ANALYTICAL METHOD VALIDATION DATA FOR P-XYLENE MATRIX STANDARD PREPARATIONS

P-XYLENE INJECTED (ug)	P-XYLENE FOUND (FROM THE CALIBRATION STANDARD CURVE) (ug)
1.00	$\bar{x} = 1.005$ $SD = + 0.0024$ $RSD = \pm 0.24\%$ 1.003 1.008
0.80	0.793
0.40	0.402
0.20	$\bar{x} = 0.201$ $SD = + 0.0006$ $RSD = \pm 0.29\%$ 0.201 0.200

Linear Regression Analysis Using Area Ratio:

Correlation coefficient: 0.9999  
 Intercept : (-)0.0030  
 Slope : 0.8996



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PROJECT NO. 2399-110

TABLE 2

ANALYTICAL METHOD VALIDATION DATA FOR THE DETERMINATION  
OF P-XYLENE IN CORN OIL GAVAGE FORMULATIONS

SAMPLE IDENTIFICATION	TARGET VALUE (mg/mL)	DATE ANALYZED	ASSAY VALUE (mg/mL)	PERCENT OF TARGET
Control	0.00	4/03/86	N.D.	N/A
RO-0279-86A	40.40	4/03/86	38.55	95.42
RO-0279-86B	40.40	4/03/86	38.45	95.17
RO-0280-86A	323.2	4/03/86	315.5	97.62
RO-0280-86B	323.2	4/03/86	317.0	98.08
Control	0.00	4/04/86	N.D.	N/A
RO-0279-86A	40.40	4/04/86	38.75	95.92
RO-0279-86B	40.40	4/04/86	38.55	95.42
RO-0280-86A	323.2	4/04/86	312.0	96.53
RO-0280-86B	323.2	4/04/86	316.0	97.77

STANDARD CURVE STATISTICAL ANALYSIS

Date of Analysis (date extracted):	4/03/86	4/04/86
Correlation Coefficient	: 0.9999	0.9999
Intercept	: (-)0.0022	(-)0.0013
Slope	: 0.9088	0.9063

N.D. = None Detected  
N/A = Not Applicable

PROJECT NO. 2399-110

TABLE 3

STABILITY OF P-XYLENE IN CORN OIL GAVAGE FORMULATIONS STORED AT 5°C

SAMPLE IDENTIFICATION	DATE FORMULATED	DATE ANALYZED	STORAGE PERIOD	TARGET VALUE (mg/mL)	ASSAY VALUE (mg/mL)	PERCENT OF ORIGINAL $\bar{x}$ VALUE
R0-0279-86A R0-0279-86B	4/03/86	4/03/86	None	40.40 40.40	38.55 38.45 $\bar{x} = 38.50$	N/A N/A
R0-0280-86A R0-0280-86B	4/03/86	4/03/86	None	323.2 323.2	315.5 317.0 $\bar{x} = 316.3$	N/A N/A
R0-0279-86A R0-0279-86B	4/03/86	4/10/86	7 Days	40.40 40.40	39.95 40.10	104 104
R0-0280-86A R0-0280-86B	4/03/86	4/10/86	7 Days	323.2 323.2	323.0 322.5	102 102
R0-0279-86A R0-0279-86B	4/03/86	4/17/86	14 Days	40.40 40.40	38.80 38.25	101 99.4
R0-0280-86A R0-0280-86B	4/03/86	4/17/86	14 Days	323.2 323.2	308.5 309.5	97.5 97.9
R0-0279-86A R0-0279-86B	4/03/86	4/24/86	21 Days	40.40 40.40	38.95 38.15	101 99.1
R0-0280-86A R0-0280-86B	4/03/86	4/24/86	21 Days	323.2 323.2	316.0 316.5	99.9 100

N/A = Not Applicable

L:50/7-3



**HAZLETON**

LABORATORIES AMERICA, INC.  
1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

PROJECT NO. 2399-110

TABLE 4

STABILITY OF P-XYLENE IN CORN OIL GAVAGE FORMULATIONS STORED AT ROOM TEMPERATURE

SAMPLE IDENTIFICATION	DATE FORMULATED	DATE ANALYZED	STORAGE PERIOD	TARGET VALUE (mg/mL)	ASSAY VALUE (mg/mL)	PERCENT ORIGINAL $\frac{\bar{x}}{x}$ VALUE
R0-0279-86A R0-0279-86B	4/03/86	4/03/86	None	40.40 40.40	38.55 38.45 $\bar{x} = 38.50$	N/A N/A
R0-0280-86A R0-0280-86B	4/03/86	4/03/86	None	323.2 323.2	315.5 317.0 $\bar{x} = 316.3$	N/A N/A
R0-0279-86A R0-0279-86B	4/03/86	4/10/86	7 Days	40.40 40.40	40.90 40.95	106 106
R0-0280-86A R0-0280-86B	4/03/86	4/10/86	7 Days	323.2 323.2	326.0 324.0	103 102
R0-0279-86A R0-0279-86B	4/03/86	4/17/86	14 Days	40.40 40.40	38.90 38.70	101 101
R0-0280-86A R0-0280-86B	4/03/86	4/17/86	14 Days	323.2 323.2	309.5 309.0	97.9 97.7
R0-0279-86A R0-0279-86B	4/03/86	4/24/86	21 Days	40.40 40.40	38.00 38.85	98.7 101
R0-0280-86A R0-0280-86B	4/03/86	4/24/86	21 Days	323.2 323.2	313.5 308.5	99.1 97.5

N/A = Not Applicable



PROJECT NO. 2399-110

TABLE 5

DETERMINATION OF P-XYLENE IN CORN OIL  
GAVAGE PREPARATIONS TO VERIFY DOSAGE CONCENTRATION

SAMPLE IDENTIFICATION	DATE FORMULATED	DATE ANALYZED	INTERVAL	TARGET VALUE (mg/mL)	ASSAY VALUE (mg/mL)	PERCENT OF TARGET
R0-0299-86	4-10-86	4-16-86	Week 1	0.00	N.D.	N/A
R0-0300-86A	4-10-86	4-16-86	"	40.40	39.75	98.39
R0-0300-86B	4-10-86	4-16-86	"	40.40	39.70	98.27
R0-0301-86A	4-10-86	4-16-86	"	80.80	80.70	99.88
R0-0301-86B	4-10-86	4-16-86	"	80.80	81.60	101.0
R0-0302-86A	4-11-86	4-16-86	"	323.2	324.0	100.2
R0-0302-86B	4-11-86	4-16-86	"	323.2	328.0	101.5
R0-0408-86	5-08-86	5-12-86	Week 5	0.00	N.D.	N/A
R0-0409-86A	5-08-86	5-12-86	"	40.40	38.15	94.43
R0-0409-86B	5-08-86	5-12-86	"	40.40	39.25	97.15
R0-0410-86A	5-08-86	5-12-86	"	80.80	77.90	96.41
R0-0410-86B	5-08-86	5-12-86	"	80.80	75.70	93.69
R0-0411-86A	5-08-86	5-12-86	"	323.2	312.5	96.69
R0-0411-86B	5-08-86	5-12-86	"	323.2	303.0	93.75
R0-0525-86	6-04-86	6-05-86	Week 9	0.00	N.D.	N/A
R0-0526-86A	6-04-86	6-05-86	"	40.40	38.35	94.93
R0-0526-86B	6-04-86	6-05-86	"	40.40	38.70	95.79
R0-0527-86A	6-04-86	6-05-86	"	80.80	77.30	95.67
R0-0527-86B	6-04-86	6-05-86	"	80.80	76.50	94.68
R0-0528-86A	6-04-86	6-05-86	"	323.2	313.5	97.00
R0-0528-86B	6-04-86	6-05-86	"	323.2	311.0	96.23
R0-0717-86	7-02-86	7-03-86	Week 13	0.00	N.D.	N/A
R0-0718-86A	7-02-86	7-03-86	"	40.40	39.05	96.66
R0-0718-86B	7-02-86	7-03-86	"	40.40	39.45	97.65
R0-0719-86A	7-02-86	7-03-86	"	80.80	79.40	98.27
R0-0719-86B	7-02-86	7-03-86	"	80.80	79.70	98.64
R0-0720-86A	7-02-86	7-03-86	"	323.2	317.5	98.24
R0-0720-86B	7-02-86	7-03-86	"	323.2	321.5	99.47

N.D. = None Detected  
N/A = Not Applicable

L:50/7-5



**HAZLETON**

LABORATORIES AMERICA, INC.  
1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

PROJECT NO. 2399-110

TABLE 6

ANALYSES OF CORN OIL FOR PEROXIDE DETERMINATION

<u>SAMPLE IDENTIFICATION</u>	<u>DATE OF ANALYSIS</u>	<u>PEROXIDE NUMBER FROM EACH INDIVIDUAL TITRATION (meq/kg)</u>
RO-0318-86	04-21-86	1.11 1.07 1.04 $\bar{x} = \frac{1.07}{1.07} \pm 0.035 \text{ S.D.}$
RO-0454-86	05-19-86	1.14 1.14 1.13 $\bar{x} = \frac{1.13}{1.14} \pm 0.006 \text{ S.D.}$
RO-0588-86	06-20-86	1.37 1.37 1.37 $\bar{x} = \frac{1.37}{1.37} \pm 0.000 \text{ S.D.}$
RO-0810-86	07-16-86	1.63 1.64 1.63 $\bar{x} = \frac{1.63}{1.63} \pm 0.006 \text{ S.D.}$



**HAZLETON**

LABORATORIES AMERICA, INC.

1330 - S PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

ATTACHMENT A

1. Determination of p-Xylene in Corn Oil Gavage  
(Analytical Method No. 164)
2. Analysis of Corn Oil for Peroxides; Modification of the  
Official Method of the American Oil Chemists' Society

**HAZLETON**

BIOTECHNOLOGIES COMPANY

HAZLETON, PA 15112-1000  
100 LEBESBURG TURNPIKE, SUITE 100, LEBESBURG, NJ 07046

PROJECT # 2399-110

DIAGNOSTIC ASSAYS DEPARTMENT  
ANALYTICAL CHEMISTRY LABORATORY

ANALYTICAL METHOD NO. 164

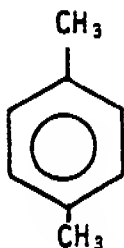
PAGE 1 OF 7

DATE: March 24, 1986

APPROVAL: Susan A. Hawkins

TITLE: Determination of P-Xylene in Corn Oil Gavage

STRUCTURE:



Para-xylene

DEVELOPED BY: Hazleton Biotechnologies Company, a Division of Hazleton Laboratories Corporation

1.0 SCOPE

This method is for the gas chromatographic (GC) analysis of p-xylene in corn oil gavage at levels from 40 mg/mL to 320 mg/mL.

2.0 PRINCIPLE

P-Xylene is extracted from the corn oil by shaking with methanol. The extracts are analyzed by gas chromatography (GC) using a flame ionization detector (FID).





**HAZLETON**

BIOTECHNOLOGIES COMPANY

A DIVISION OF HAZLETON LABORATORIES CORPORATION

2201 LEESBURG TURNPIKE, VIENNA, VIRGINIA 22180, U.S.A.

ANALYTICAL METHOD NO. 164

PAGE 2 OF 7

DATE: March 24, 1986

### 3.0 EQUIPMENT

- 3.1 Gas Chromatograph: Hewlett-Packard 5880A, equipped with a flame ionization detector (FID), a HP 5880A terminal, and a HP 7672A autosampler, or equivalent
- 3.2 Glass Column: 6 ft x 2 mm packed with GP 5% SP-1200/1.75% Bentone 34 on 100/120 Supelcoport, or equivalent
- 3.3 Polypropylene Tubes: Falcon 2070 blue max 50 mL
- 3.4 Analytical Balance: Mettler H31AR, or equivalent
- 3.5 Shaker Box: Equipoise heavy duty, or equivalent
- 3.6 SMI pipets: 0.1 mL & 0.5 mL SMI pipets, or equivalent
- 3.7 Centrifuge: International centrifuge, model K, or equivalent
- 3.8 General laboratory glassware

### 4.0 REAGENTS

- 4.1 Methanol: Baker "HPLC Grade", or equivalent
- 4.2 P-Xylene Standard: Supplied by sponsor, 99% purity. Stored at 5°C.
- 4.3 N-Propylbenzene Internal Standard: Supplied by Kodak, catalog no. I132224, lot no. A138, stored at 5°C.


**HAZLETON**

BIOTECHNOLOGIES COMPANY

 A DIVISION OF HAZLETON LABORATORIES CORPORATION  
 5200 LEESEBURG TURNPIKE, VIENNA, VIRGINIA 22186 U.S.A.

ANALYTICAL METHOD NO. 164
PAGE 3 OF 7
DATE: March 24, 1986

## 5.0 PROCEDURE

### 5.1 Standard Preparation

#### 5.1.1 Preparation of Stock standard solutions

Stock Standard Solution I (10.0 mg/mL): Weigh accurately 500 mg of standard p-xylene (adjust for purity) into a 50 mL volumetric flask. Dissolve and bring to volume with methanol.

Stock Standard Solution II (20.0 mg/mL): Weigh accurately 1000 mg of standard p-xylene (adjust for purity) into a 50 mL volumetric flask. Dissolve and bring to volume with methanol.

#### 5.1.2 Preparation of stock internal standard

Weigh accurately 250 mg of the internal standard n-propylbenzene into a 50 mL volumetric flask. Dissolve and bring to volume with methanol. This internal standard contains 5 mg/mL of propylbenzene.

#### 5.1.3 Preparation of Working Matrix Standard Solutions

Prepare the working matrix standard solutions in 50 mL polypropylene tubes as follows:

<u>Std. Soln. No.</u>	<u>mL Undosed Corn Oil</u>	<u>mL Stock Std. I</u>	<u>mL Stock Std. II</u>	<u>mL Methanol</u>	<u>Conc. of Extract mg/mL</u>
1	0.5	1	-	9	1.0
2	0.5	-	1	9	2.0
3	0.5	-	2	8	4.0
4	0.5	5	-	5	5.0

Shake polypropylene tubes on floor shaker for 5 minutes.

Centrifuge at 2500 rpm for 5 minutes.


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A DIVISION OF HAZLETON LABORATORIES CORPORATION

HERTFORDSPUR TURNPIKE VIENNA VIRGINIA 22181 U.S.A.

ANALYTICAL METHOD NO. 164
PAGE 4 OF 7
DATE: March 24, 1986

Dilute extract as follows:

Std. Soln. No.	mL Extract	mL Stock Internal Std.	mL Methanol	Final Concentration (mg/mL)	
				p-xylene	1 STD
1	1	1	8	0.1	0.5
2	1	1	8	0.2	0.5
3	1	1	8	0.4	0.5
4	1	1	8	0.5	0.5

 Inject 2  $\mu$ L of each working matrix standard for standard curve and calibrate.

## 5.2 Sample Preparation

5.2.1 Pipet 0.5 mL of sample into 50 mL polypropylene tubes.

5.2.2 Pipet 10 mL methanol into each sample tube.

5.2.3 Shake sample tubes on floor shaker for 5 minutes.

5.2.4 Centrifuge at 2500 rpm for 5 minutes.

5.2.5 Make dilutions of the extracts with methanol in 10 mL volumetric flask as follows:

Level	mL Extract	mL Internal Std.	Final Conc. (mg/mL)	
			p-xylene	1 STD
Control	2	1	0.1	0.5
40 mg/mL	2	1	0.2	0.5
80 mg/mL	1	1	0.4	0.5
320 mg/mL	0.2	1	0.5	0.5

5.2.6 Bring to 10 mL volume mark with methanol.

 5.2.7 Inject 2  $\mu$ L of sample on GC-FID.

5.2.8 Extracts should be refrigerated if not analyzed on the same day.



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8201 LEBESQUE TURNPIKE, VIENNA, VIRGINIA 22182 U.S.A.

ANALYTICAL METHOD NO. 164

PAGE 5 OF 7

DATE: March 24, 1986

### 5.3 Sample Calculation

5.3.1 The Hewlett-Packard GC terminal is programmed to calculate the amount of p-xylene injected from peak area using internal standard procedure for calculating the chromatographic data. The calibration table is generated by analyzing the chromatographic standards listed in 5.1.3.

#### 5.3.2

$$\text{mg detected} = \frac{\mu\text{g detected}}{\text{mL sample injected}}$$

$$\text{percent target} = \frac{\text{mg detected}}{\text{target}} \times 100$$

$$\text{where mL sample inj.} = \text{inj. vol.} \times \frac{\text{mL sample}}{\text{extraction volume}} \times \frac{\text{aliquot taken for dil.}}{\text{final dil. vol.}}$$



**HAZLETON**

BIOTECHNOLOGIES COMPANY

A DIVISION OF HAZLETON LABORATORIES CORPORATION  
800 LEESBURG TURNPIKE, VIENNA, VIRGINIA 22181

ANALYTICAL METHOD NO. 164

USE A

PAGE 6 OF 7

DATE: March 24, 1986

## 7.0 INSTRUMENT PARAMETERS

Gas Chromatograph : Hewlett-Packard 5880A with flame ionization detector, a HP 5880A terminal, and a HP 7672A autosampler, or equivalent

Column : 6 ft x 2 mm glass column packed with GP 5% SP-1200/1.75% Bentone 34 on 100/120 Supelcoport, or equivalent

Gas Flow

Carrier Gas : Helium, ~30 mL/min

Detector Gas : Air, ~60 mL/min

Hydrogen, ~30 mL/min

Temperature

Oven : 75°C

Detector : 280°C

Injection Port : 150°C

Injection Volume : 2 µL

Chart Speed : 0.25 cm/min

Quantitation : Peak Area Ratio

Retention Time : Approx. 4.5 minutes for p-xylene; ~8 minutes for ISTD

NOTE: The above conditions may be changed to optimize the instrument response and sample detection.



**HAZLETON**

BIOTECHNOLOGIES COMPANY

A DIVISION OF HAZLETON LABORATORY CORPORATION  
5200 LEESBURG TURNPIKE VIENNA, VIRGINIA 22182 U.S.A.

ANALYTICAL METHOD NO. 164

PAGE 7 OF 7

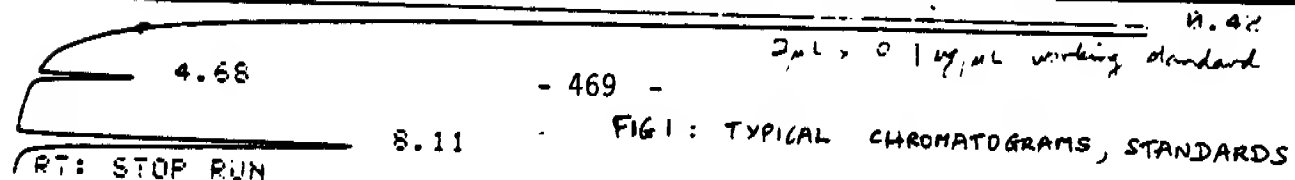
DATE: March 24, 1986

## 8.0 LIST OF FIGURES

Figure 1. Typical chromatograms, standards

Figure 2. Typical standard curve

Figure 3. Typical chromatograms, samples



HP 5880A SAMPLER INJECTION @ 15:15 APR 17, 1986  
 SAMPLE # : ID CODE :

2  
 PROJ. 2399-110 DAY 14 STAB AT RT% 5 DEG  
 ISTD

RT	EXP RT	AREA	TYPE	WIDTH	CAL	AMOUNT	NAME
0.00							
0.00							
0.00							
4.68	4.68	636.72	BB	0.251	1	0.189	P-XYLENE
8.11	8.11	3652.62 +	BB	0.419	2	ISTD 1	PROPYLBENZEN

MULTIPLIER = 1  
 ISTD 1 AMT = 1

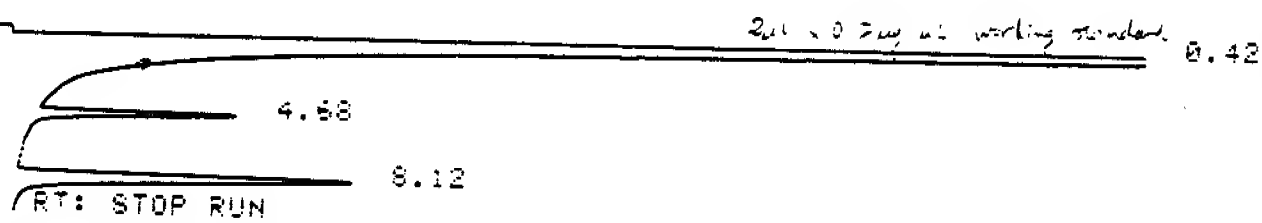
CALIB 2

CAL	RT	NAME	AMT
1	4.677	P-XYLENE	: .2
2	8.109	PROPYLBENZEN	: 1.0

EDIT AUTO SEQ 6, 3

EDIT AUTO SEQ 7, 3

START AUTO SEQ



HP 5880A SAMPLER INJECTION @ 15:27 APR 17, 1986  
 SAMPLE # : ID CODE :

3  
 PROJ. 2399-110 DAY 14 STAB AT RT% 5 DEG  
 ISTD

RT	EXP RT	AREA	TYPE	WIDTH	CAL	AMOUNT	NAME
0.00							
0.00							
0.00							
4.68	4.68	1294.75	BB	0.250	1	0.400	P-XYLENE
8.12	8.12	3573.90 +	BB	0.413	2	ISTD 1	PROPYLBENZEN

MULTIPLIER = 1  
 ISTD 1 AMT = 1

CALIB 3

CAL	RT	NAME	AMT
1	4.683	P-XYLENE	: .4
2	8.100	PROPYLBENZEN	: 1.0

MULTIPLIER = 1  
ISTD 1 AMT = 1

- 470 -

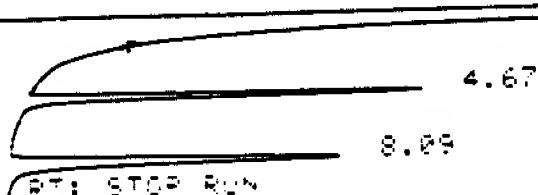
FIG 1. TYPICAL CHROMATOGRAMS, STANDARDS

START AUTO SEQ

DELETE CALIB  
DELETE ALL (1=YES)? 1

RUN TIME 10 STOP

2.1.0 - 14.141 working standard 0.41



[HP] 5880A SAMPLER INJECTION @ 15:00 APR 17, 1986

SAMPLE # : ID CODE :

METHOD ABORTED  
AREA %

RT	AREA	TYPE	WIDTH	HEIGHT	BASLINE	AREA %
0.00						
0.00						
0.00						
0.41	891300.00	BV	0.07	211669.00	7.92	99.317
4.67	2603.03	BB	0.251	162.67	19.03	0.290
8.09	3528.91	BB	0.410	134.61	12.30	0.393

TOTAL AREA = 897432.00  
MULTIPLIER = 1

CALIB 1  
CALIB AREA OR HEIGHT (1=HEIGHT)? 0

CAL	RT	AMT	REF	NAME
1	0.413	:	:	: P-XYLENE
1	4.666	: 1.0	:	: PROPYLBENZEN
2	8.091	: 1.0	: +ISTD	

0 MULTIPLIER = 1 :  
-1 REF WINDOW = 5% :  
-2 NON-REF WINDOW = 5% :  
-3 UNCAL REF = 0 :  
-4 LEADING

PRCL. 2899-110 OF 14 STAB AT RT6.5 DEG

-5 SAMPLE AMT = 0 :  
-6 ISTD 1 AMT = 1 :

ISTD

EDIT AUTO SEQ 6. 2

EDIT AUTO SEQ 6.  
EDIT AUTO SEQ 7. 2

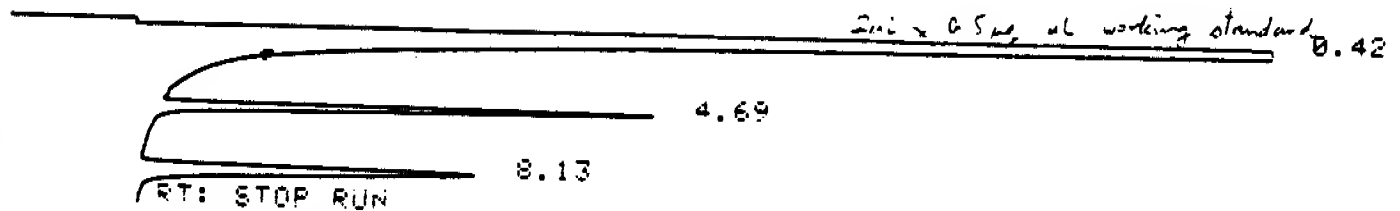
START AUTO SEQ



EDIT AUTO SEQ 7, 5

FIG1. TYPICAL CHROMATOGRAMS, STANDARDS

START AUTO SEQ



【AP】 5890A SAMPLER INJECTION @ 15:39 APR 17, 1986

SAMPLE # : ID CODE :

5

PROJ. 2399-110 DAY 14 STAB AT RT& 5 DEG  
ISTD

RT	EXP RT	AREA	TYPE	WIDTH	CAL	AMOUNT	NAME
0.00							
0.00							
0.00							
4.69	4.69	3258.51	BB	0.252	1	0.984	P-XYLENE
8.13	8.13	3593.64 +	BB	0.413	2	ISTD 1	PROPYLBENZEN

BASELINE @ START RUN = 8.33

THRESHOLD @ START RUN = 4

PEAK WIDTH @ START RUN = 0.08

MULTIPLIER = 1

ISTD 1 AMT = 1

CALIB 4

CAL	RT	NAME	AMT
1	4.692	P-XYLENE	: 1.0
2	8.135	PROPYLBENZEN	: 1.0

LIST CALIB

CALIB TABLE:

CAL	RT	LEVEL	AMT	AMT/AREA	REF	NAME
1	4.666	1	8.00000E-01	3.07334E-04		
		2	2.00000E-01	3.14111E-04		P-XYLENE
		3	4.00000E-01	3.08941E-04		
		4	1.00000E+00	3.06889E-04		
2	8.091	1	1.00000E+00	2.83373E-04	+ ISTD 1	PROPYLBENZEN
		2	1.00000E+00	2.73776E-04		
		3	1.00000E+00	2.79806E-04		
		4	1.00000E+00	2.78716E-04		

CALIB PARAMS:

0 MULTIPLIER = 1

-1 REF WINDOW = 5%

-2 NON-REF WINDOW = 5%

-3 UNCAL RF = 0

-4 HEADING =

PROJ. 2399-110 DAY 14 STAB AT RT& 5 DEG

-5 SAMPLE AMT = 0

-6 ISTD 1 AMT = 1

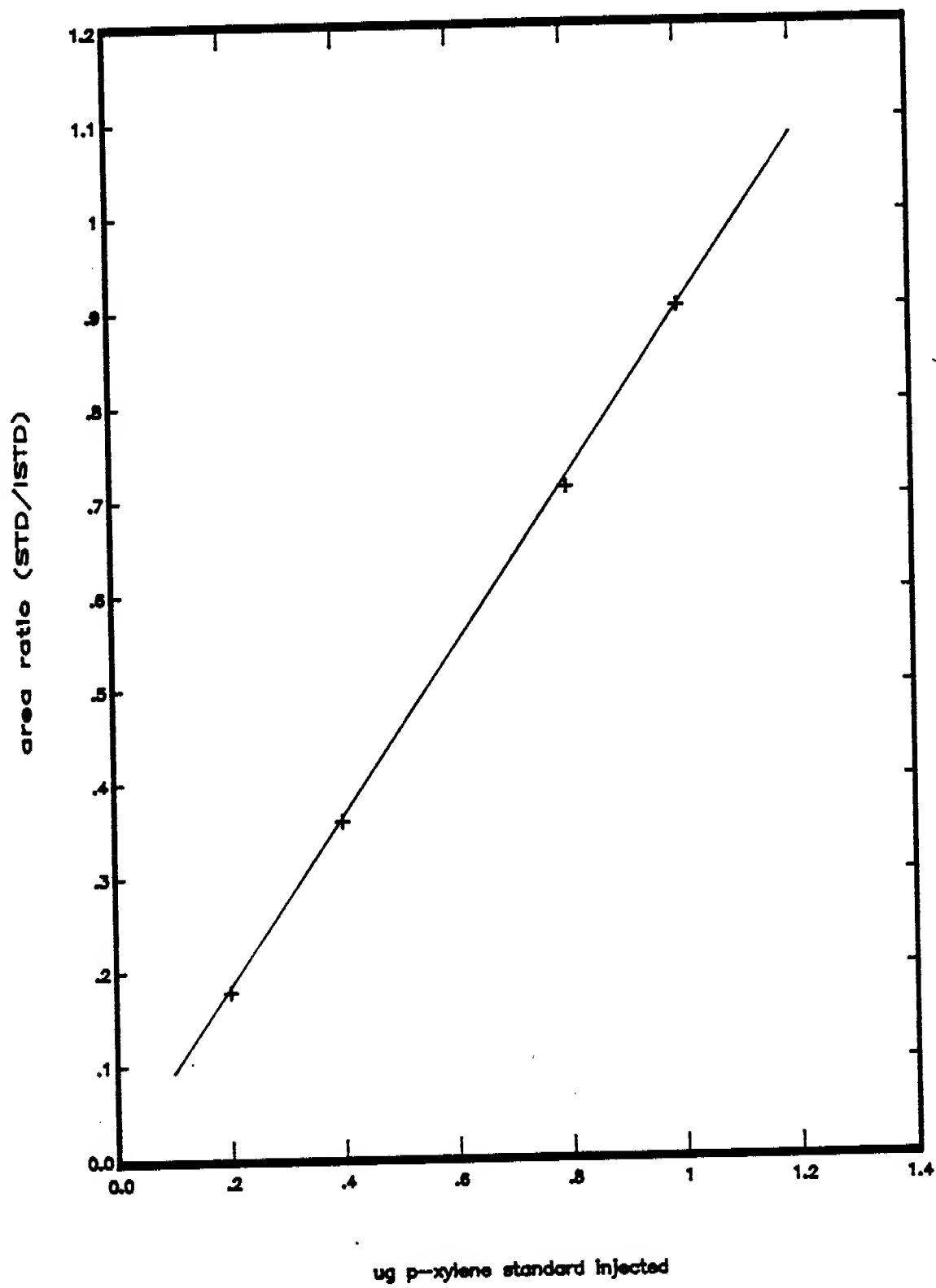
AVAILABLE MEMORY (BYTES): 24384

EDIT AUTO SEQ 6, 6

EDIT AUTO SEQ 7, 14

FIGURE 2 - STANDARD CURVE

p-xylene



4.70  
8.15  
RT: STOP RUN

【HP】 5880A SAMPLER INJECTION @ 15:54 APR 17, 1986

SAMPLE # : ID CODE :

6

PROJ. 2399-110 DAY 14 STAB AT RT& 5 DEG  
ISTD

RT	EXP RT	AREA	TYPE	WIDTH	CAL	AMOUNT	NAME
0.00		BASELINE @ START RUN = 7.43					
0.00		THRESHOLD @ START RUN = 4					
0.00		PEAK WIDTH @ START RUN = 0.08					
4.70	4.70	2578.74	BB	0.252	1	0.778	P-XYLENE
8.15	8.15	3596.63 +	BB	0.414	2	ISTD 1	PROPYLBENZEN

MULTIPLIER = 1

ISTD 1 AMT = 1

24 x 20-0279-10A RT

0.42

4.70  
8.15  
RT: STOP RUN

【HP】 5880A SAMPLER INJECTION @ 16:06 APR 17, 1986

SAMPLE # : ID CODE :

7

PROJ. 2399-110 DAY 14 STAB AT RT& 5 DEG  
ISTD

RT	EXP RT	AREA	TYPE	WIDTH	CAL	AMOUNT	NAME
0.00		BASELINE @ START RUN = 8.48					
0.00		THRESHOLD @ START RUN = 4					
0.00		PEAK WIDTH @ START RUN = 0.08					
4.70	4.70	2573.98	BB	0.252	1	0.774	P-XYLENE
8.15	8.15	3605.99 +	BB	0.414	2	ISTD 1	PROPYLBENZEN

MULTIPLIER = 1

ISTD 1 AMT = 1

24 x 20-0279-10A RT

0.42

4.70  
8.16  
RT: STOP RUN

【HP】 5880A SAMPLER INJECTION @ 16:18 APR 17, 1986

SAMPLE # : ID CODE :

8

PROJ. 2399-110 DAY 14 STAB AT RT& 5 DEG  
ISTD

## 7. Analysis of Corn Oil for Peroxide

a. Any batch of corn oil used in the Bioassay Program will be analyzed for peroxides before it is first used and at monthly intervals thereafter, while it is in use. Corn oil must be purchased in batches no smaller than 2 gallons (7 Kg) per chemical for which it is the dose vehicle, unless substantially less than this quantity is being used monthly. All corn oil must be stored at 5° C or lower.

b. The following is a standard analytical procedure which can be used for these analyses. The method employed is the Official Method Cd. 8-53 of the A.O.C.S. (1972).<sup>1/</sup> It determines all substances, in terms of milliequivalents (meq) of peroxide per 1,000 grams of sample, which oxidize aqueous iodide under the conditions of the test. These are

---

<sup>1/</sup> Official and Tentative Methods of the American Oil Chemists' Society, 3rd Ed. Revised; V.C. Mehlenbacher, T.H. Hopper, E.M. Saltee, and W.E. Link, Eds., American Oil Chemists' Society, Champaign, Illinois (1972).

*This is a contractually specified method.*

*Notes. 1) Boil and cool all H<sub>2</sub>O.*

*2) Prepare 0.005 N Thiosulfate by dilution of a commercial standardized thiosulfate titrant of greater normality*

*Jerry M. Fitzgerald*

*8/26/51*

generally assumed to be peroxides or other similar products of fat oxidation. The method is highly empirical, and any variation in procedure may affect the results.

c. A 5.0 gram sample of the corn oil to be analyzed is quantitatively transferred into a 250 ml titration flask and 30 ml of glacial acetic acid:chloroform (60:40 w/v) is added. The mixture is stirred until the corn oil has completely dissolved. One-half milliliter of a saturated aqueous potassium iodide solution is added. The test solution is stirred thoroughly and allowed to stand for exactly 1 minute, after which 30 ml of distilled water is added. The iodine liberated by the peroxides in this solution is titrated potentiometrically with standard 0.005 N sodium thiosulfate solution, stirring vigorously to ensure thorough mixing. An automatic titrator with platinum disk working electrode and silver - silver chloride reference electrode is convenient. Titrations should be run in triplicate. A blank titration of reagents should be run on the day the oil sample is analyzed; the blank should not titrate more than 1.0 ml of the 0.005 N sodium thiosulfate standard solution. Peroxide number, expressed in milliequivalents of peroxide per kilogram of oil (meq/kg), is calculated as follows:

$$\text{Peroxide Number} = \frac{(V - B) \times N \times 1,000}{W}$$

V = volume (in ml) of thiosulfate solution required for titration of oil sample

B = volume (in ml) of thiosulfate solution required for titration of reagent blank

N = normality of sodium thiosulfate solution

W = Weight of oil sample in grams

d. Results should be reported as shown in Figure 13 to this Attachment A. In this report, the method above can be cited by reference to this document, but the instrument used for the titration must be specified. When reporting follow-up analyses, the dates and results of all previous analyses of the batch should be included for comparison. Conclusions and actions taken as a result must be noted, and the report must be signed and dated by the responsible chemist. These reports should accompany the first Monthly Progress Report after the analysis.

e. Corn oil with a peroxide number equal to or less greater than 10 meq/kg will be considered rancid for purposes of this program and must be replaced immediately.

Footnotes:

(&A) Changed 10/26/79 by Modification 70

Dist. G. Wolfe, I. Foxx, M. Rodwin, Project File

ANALYSIS FOR PEROXIDES IN CORN OIL

Bioassay Lab: Hazleton Biotechnologies Company

Type (brand) of corn oil: Duke's Pure Corn Oil

Source: Mazo Lerch Co.

Lot or batch number (if any): Lot No. 5K21

Additives (if known): Not indicated

Date procured: 1/14/86

Storage temperature: 4°C - Rockville, walk-in refrigerator

Used for: Gavage vehicle

Analytical Method: MRI modification of AOC/AOAC method

Digital MV meter used with a platinum combination electrode (platinum/AG/AgCl), Fisher Cat. No. 13-639-82.

---

<u>Date of Analysis</u>	<u>Peroxide Number (from each individual titration, meq/kg)</u>	<u>Average Peroxide Number (meq/kg)</u>
4/21/86	1.11, 1.07, 1.04	1.07 ± 0.035 S.D.
<u>Previous Analyses</u>		
1/31/86	0.611, 0.616, 0.611	0.613 ± 0.003 S.D.
3/03/86	0.893, 0.888, 0.892	0.891 ± 0.003 S.D.

Conclusions: Peroxide number is well below the limit of 10 meq/kg.

Signed Lee Hahnig  
Date 5-16-86

Approved Susan A. Lewis

Dist. G. Wolfe, J. Fox, M. Rodwin, Project File

ANALYSIS FOR PEROXIDES IN CORN OIL

Bioassay Lab: Hazleton Biotechnologies Company

Type (brand) of corn oil: Schneck's Corn Oil

Source: Mazo Lerch Co.

Lot or batch number (if any): Lot No. 775

Additives (if known): Not indicated

Date procured: 5/15/86

Storage temperature: 4°C - Rockville, walk-in refrigerator

Used for: Gavage vehicle

Analytical method: MRI modification of AOC/AOAC method

Digital MV meter used with a platinum combination electrode (platinum/AG/AgCl), Fisher Cat. No. 13-639-82.

---

<u>Date of Analysis</u>	<u>Peroxide Number (from each individual titration, meq/kg)</u>	<u>Average Peroxide Number (meq/kg)</u>
5/19/86	1.14, 1.14, 1.13	1.14 ± 0.006 S.D.

Previous Analyses

Conclusions: Peroxide number is well below the limit of 10 meq/kg.

Signed  
Date

Lee Hahn  
5-20-86

Approved

James L. Drouhard

Dist. J. Wolfe, J. Foxx, M. Rodwin, Project File

ANALYSIS FOR PEROXIDES IN CORN OIL

Bioassay Lab: Hazleton Biotechnologies Company

Type (brand) of corn oil: Schneck's Corn Oil

Source: Mazo Lerch Co.

Lot or batch number (if any): Lot No. 775

Additives (if known): Not indicated

Date procured: 6/20/86

Storage temperature: 4°C - Rockville, walk-in refrigerator

Used for: Gavage vehicle

Analytical method: MRI modification of AOC/AOAC method

Digital MV meter used with a platinum combination electrode (platinum/AG/AgCl), Fisher Cat. No. 13-639-82.

---

<u>Date of Analysis</u>	<u>Peroxide Number (from each individual titration, meq/kg)</u>	<u>Average Peroxide Number (meq/kg)</u>
6/20/86	1.37, 1.37, 1.37	1.37 ± 0.00 S.D.
<u>Previous Analyses</u>		
5/19/86	1.14, 1.14, 1.13	1.14 ± 0.00 S.D.

Conclusions: Peroxide number is well below the limit of 10 meq/kg.

Signed  
Date

Lee Hahung  
6-23-86

Approved

John L. Doshier



ANALYSIS FOR PEROXIDES IN CORN OIL

Bioassay Lab: Hazleton Biotechnologies Company

Type (brand) of corn oil: Schneck's Corn Oil

Source: Mazo Lerch Co.

Lot or batch number (if any): Lot No. 775

Additives (if known): Not indicated

Date procured: 6/20/86

Storage temperature: 4°C - Rockville, walk-in refrigerator

Used for: Gavage vehicle

Analytical method: MRI modification of AOC/AOAC method

Digital MV meter used with a platinum combination electrode (platinum/AG/AgCl), Fisher Cat. No. 13-639-82

---

<u>Date of Analysis</u>	<u>Peroxide Number (from each individual titration meq/kg)</u>	<u>Average Peroxide Number (meq/kg)</u>
7/17/86	1.63, 1.64, 1.63	1.63 ± 0.006 S.D.
<u>Previous Analyses</u>		
5/19/86	1.14, 1.14, 1.13	1.14 ± 0.006 S.D.
6/20/86	1.37, 1.37, 1.37	1.37 ± 0.00 S.D.

Conclusions: Peroxide number is well below the limit of 10 meq/kg.

Signed  
Date

Kee Hohwing  
7-18-86

Approved

Susan A. Harris



ATTACHMENT B

Chemical Characterization of the Test Material:

1. Report of Analysis, Hazleton Laboratories America, Madison, Wisconsin.
  - a - Moisture, Karl Fischer method
  - b - GC purity
  - c - IR spectra
  - d - GCMS
  - e - NMR
2. Elemental analysis, Micro-Tech Laboratories, Inc., Skokie, Illinois.
3. Report of Analysis, Hazleton Laboratories America, Madison, Wisconsin.
  - a - Final GC purity

**HAZLETON**

LABORATORIES AMERICA, INC.

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Chemical &amp; BioMedical Sciences Division

3301 KINSMAN BLVD. • P.O. BOX 7645 • MADISON, WISCONSIN 53707 • PHONE (608) 241-4471 • TLX 703956 HAZRAL MDS UD

## REPORT OF ANALYSIS

LEE HOHING  
HAZLETON BIOTECHNOLOGIES CORPORATION  
9200 LEESBURG TURNPIKE  
VIENNA, VA 22180

SAMPLE NUMBER: 6030270

DATE ENTERED: 03/13/86

REPORT PRINTED: 04/30/86

P-XYLENE (RD-0219 86)

PURCHASE ORDER NUMBER: 002107

ASSAY  
MOISTURE, KARL FISCHER METHOD

<u>ANALYSIS</u>	<u>UNITS</u>
.160	%

G.C. PURITY

PURE BY G.C. ANALYSIS	99.8	%
-----------------------	------	---

METHOD REFERENCE

HAZLETON LABORATORY WORKSHEET 05XX 000166-00.

IR SPECTRA

EXHIBITS CHARACTERISTIC PEAKS FOR THIS COMPOUND

METHOD REFERENCE

ALDRICH REFERENCE BOOK OF IR SPECTRA.

GCMS

REPORT TO BE GENERATED MANUALLY

NMR

REPORT TO BE GENERATED MANUALLY

CARBON	88.05	%
HYDROGEN	9.36	%
OXYGEN	0.26	%

METHOD REFERENCE

ANALYSIS PERFORMED BY MICRO-TECH LABORATORIES, INC., SKOKIE, IL



**HAZLETON**

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LABORATORIES AMERICA, INC.

Chemical & BioMedical Sciences Division

3301 KINSMAN BLVD. • P.O. BOX 7845 • MADISON, WISCONSIN 53707 • PHONE (608) 241-4471 • TLX 703956 HAZRAL MDS UD

SAMPLE NUMBER: 60302709

PAGE 2

P-XYLENE (RO-0219 86)

METHOD REFERENCES

MOISTURE, KARL FISCHER METHOD  
UNITED STATES PHARMACOPEIA, VOLUME XX, PAGE 988 (1980).

METHOD LISTED ABOVE WITH RESULTS

GCMS  
METHOD PER ANALYSIS

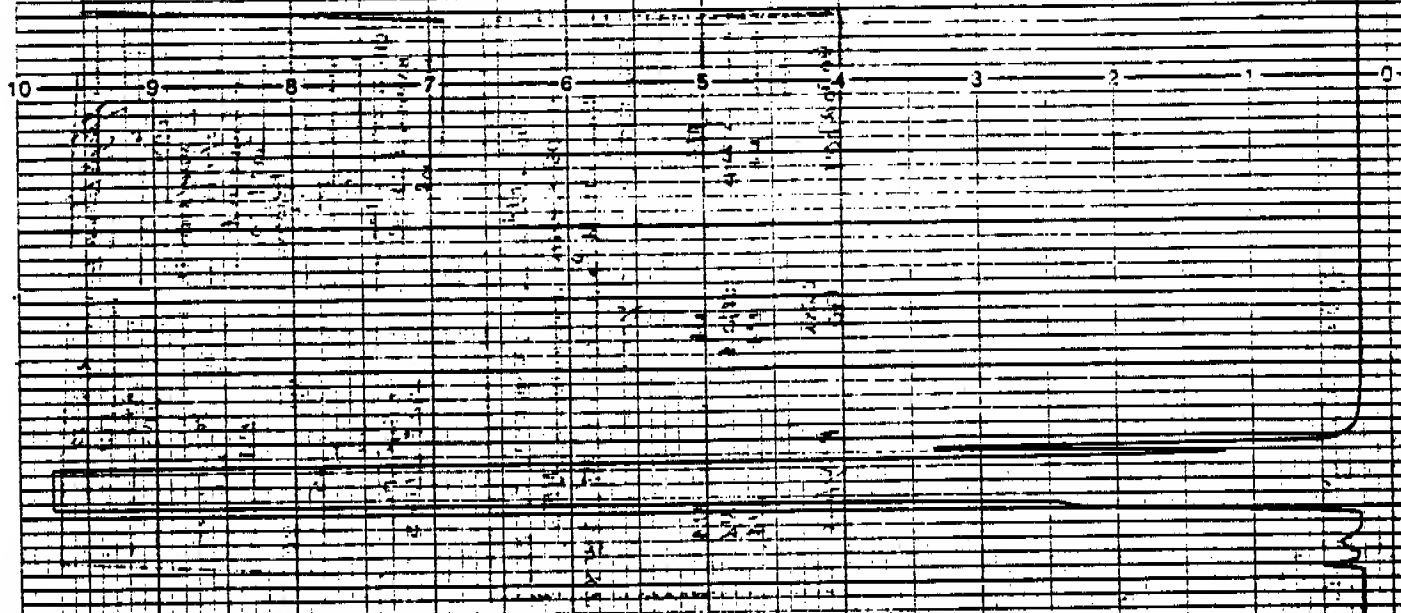
Operator <u>Henry J. Blum</u>	Date <u>7-20-86</u>
Column <u>6'</u>	Detector <u>FID</u>
Length <u>2 am</u>	Range <u>2-8</u>
Phase <u>50/50/50/50/50/50</u>	Atten. <u>203</u>
Flow Rates, ml/min.	
Hydrogen <u>30</u>	Air <u>330</u>
Carrier Gas <u>He</u>	Sample <u>NA</u>
Rotameter <u>40</u>	Temp. <u>NA</u>
Inlet Press <u>300</u>	Out. <u>100</u>
Rate <u>40</u>	In. <u>100</u>
CHART SPEED <u>low</u>	Out. <u>35</u>
SAMPLE <u>p-xylene</u>	Rate <u>NA</u>
Size <u>1/2</u>	Rate <u>NA</u>
	Sample <u>5.0 ml</u>
	Notes <u>Heated, distillation</u>

Order No. <u>NA</u>	Agency <u>OSXX</u>
Assigned to <u>OSXX W500</u>	Extracted by <u>NA</u>
Analyzed by <u>NA</u>	Collection date <u>NA 3-21-86</u>
Analysis technique: <input checked="" type="checkbox"/> GC/MS <input type="checkbox"/> GC <input type="checkbox"/> IR <input type="checkbox"/> NMR	
Pump No. <u>NA</u>	Injection <u>NA</u>
Recorder No. <u>3-90-13</u>	Detector <u>5890A</u>
Channel No. <u>NA</u>	Sample <u>NA</u>
Sample No. <u>60302709</u>	Notes <u>OSXX 170 p-xylene</u>

6030309 Other portion of chemical sample 403 3-20-76

Mr. J. M. Smith

6030309 1/2 g. each of 2 samples 403 3-20-76



6030309 1/2 g. each of 2 samples 403 3-20-76

10 9 8 7 6 5 4 3 2

July 1945 3-20-46 Run 13

10 9 8 7 6 5 4 3 2

July 1945 3-20-46 Run 13

July 1945 3-20-46 Run 13

10 9 8 7 6 5 4 3 2

July 1945 3-20-46 Run 13

July 1945

10 9 8 7 6 5 4 3 2

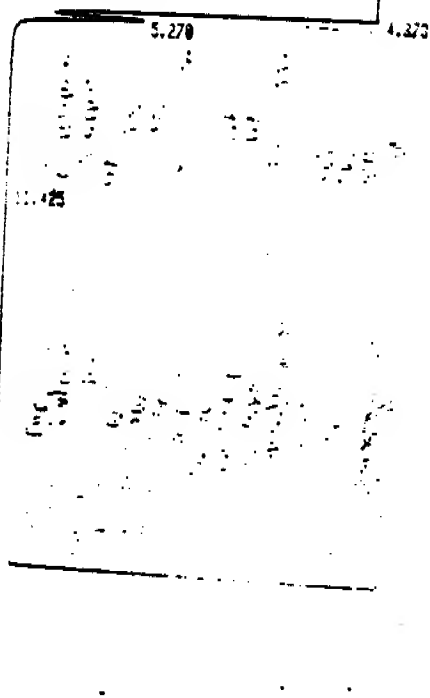
July 1945 3-20-46 Run 13

[illegible]



RUN # 68 MAR 28, 1986 13:01:35  
 START *Log 20000 mhz - d*

1.365  
 1.914  
 2.553  
 4.873  
 5.270



STOP

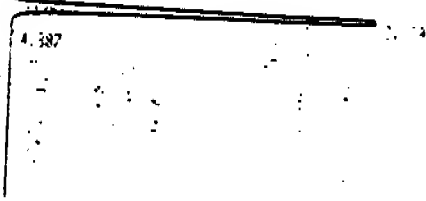
RUN# 68 MAR 28, 1986 13:01:35

RT	AREA	TYPE	WIDTH	AREA%
1.365	1354199	PB	.026	.04751
1.914	263568	PV	.153	.00925
2.553	353583	VP	.404	.01247
4.873	2,845E-09	PV	.638	99.81002
5.270	3442014	VB	.188	.12077

TOTAL AREA=2.3502E-09  
 MUL FACTOR=1.0000E-20

RUN # 69 MAR 28, 1986 13:32:59  
 START *Log 20000 mhz - d*

0.672  
 1.171



STOP

RUN# 69 MAR 28, 1986 13:32:59

RT	AREA	TYPE	WIDTH	AREA%
0.319	532986400	PHB	.033	34.36394
0.525	89684	PP	.144	.01596
1.171	1075015	VB	.157	2.12915

TOTAL AREA=5.5174E-13  
 MUL FACTOR=1.0000E-10

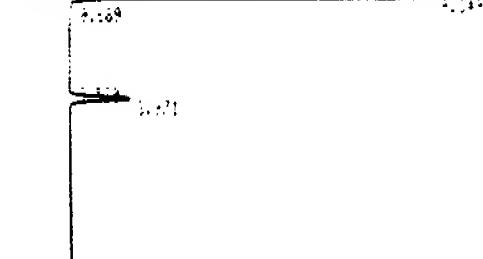
STOP

RUN# 69 MAR 28, 1986 13:02:59

RT	AREA	TYPE	WIDTH	AREA%
.318	532986400	SHB	.833	94.36394
3.525	39684	PP	.144	.81596
3.980	28767888	PB	.167	5.12013

TOTAL AREA=5.6184E+08  
MUL FACTOR=1.0000E+00

\* RUN # 70 MAR 28, 1986 13:43:42  
START *part 1* *stop*



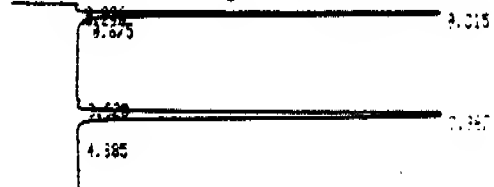
STOP

RUN# 70 MAR 28, 1986 13:48:43

RT	AREA	TYPE	WIDTH	AREA%
.349	247011200	SHB	.822	99.38813
3.971	1528708	PB	.166	.61188

TOTAL AREA=2.4853E+08  
MUL FACTOR=1.0000E+00

\* RUN # 71 MAR 28, 1986 13:58:47  
START *part 1* *stop*



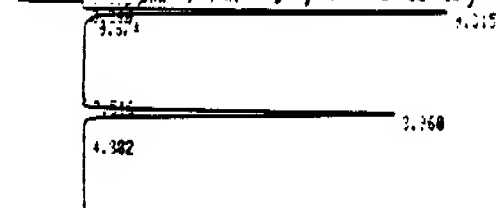
STOP

RUN# 71 MAR 28, 1986 13:58:47

RT	AREA	TYPE	WIDTH	AREA%
.315	541293120	SHB	.803	97.21795
3.967	15375400	PB	.166	2.78204

TOTAL AREA=5.5667E+08  
MUL FACTOR=1.0000E+00

\* RUN # 72 MAR 29, 1986 14:05:59  
START *part 1* *stop*



STOP

RUN# 72 MAR 29, 1986 14:05:59

AREA%

- 489 -

RT	AREA TYPE	WIDTH	AREA2
.349	247911200 SHB	.922	99.30813
3.971	1520700 PB	.166	.61188

TOTAL AREA=2.4853E+08  
MUL FACTOR=1.0000E+00

\* RUN # 71 MAR 20, 1986 13:58:47  
START *Sh lot 5097 247911200*

8.245 3.315  
4.385 3.367

STOP

RUN# 71 MAR 20, 1986 13:58:47  
AREA2

RT	AREA TYPE	WIDTH	AREA2
.315	541293120 SHB	.933	97.23798
3.967	13375400 PB	.166	2.76204

TOTAL AREA=5.5667E+08  
MUL FACTOR=1.0000E+00

\* RUN # 72 MAR 20, 1986 14:05:59  
START *Sh lot 5097 247911200*

8.244 3.315  
4.882 3.968

STOP

RUN# 72 MAR 20, 1986 14:05:59  
AREA2

RT	AREA TYPE	WIDTH	AREA2
.315	525202000 SHB	.932	98.53520
3.960	7807648 PB	.166	1.46482

TOTAL AREA=5.3301E+08  
MUL FACTOR=1.0000E+00

\* RUN # 73 MAR 20, 1986 14:13:54  
START *Sh lot 5097 247911200*

8.574 3.315  
1.968 3.315

STOP

RUN# 73 MAR 20, 1986 14:13:54  
AREA2

RT	AREA TYPE	WIDTH	AREA2
.315	536086720 SHB	.933	98.88900

TOTAL AREA=5.3639E+08  
MUL FACTOR=1.0000E+00

60302709

P-XYLENE

RO-0219-86

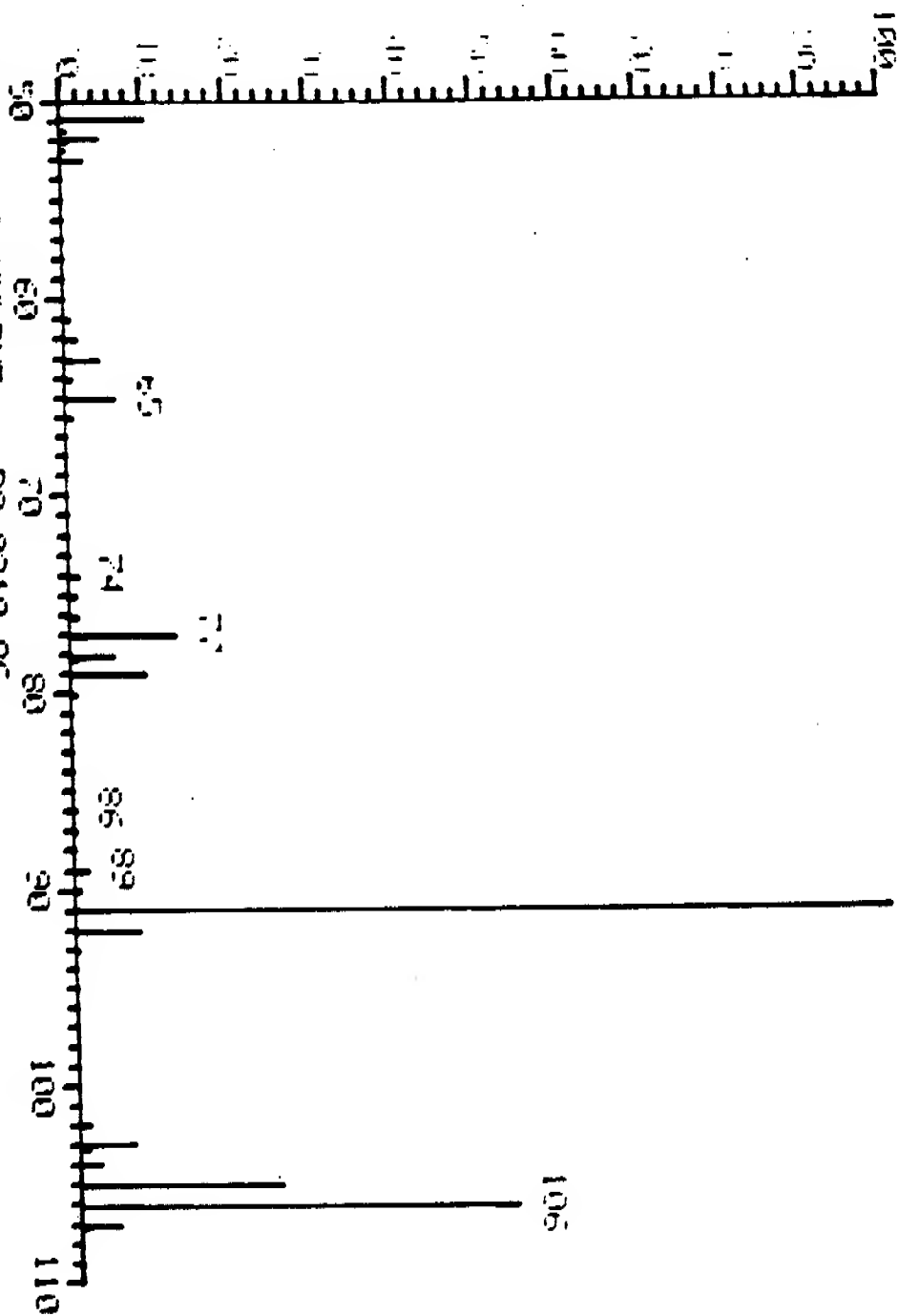
ANALYSIS NAME: HZLE.DAT;6

SPEC# 29

NORM: B / SCALE: 68684

PILOT DATE APR 2 86 13:10:01 103.6

Analyzed 3/21/86  
Curtin



X: SLIST OF HH00:[007,300]HZLE.DAT;6 60302709 p-xylene RO-0219-86  
MAR 21 86 16:35:30 VERSION V03.6 PAGE: 1

SPECTRUM NUMBER: 29 NUMBER OF PEAKS: 38

NORM. FACTORS: 1. 686.84

*Analyzed 3/21/86  
Cm 7 hr.*

PEAK#	MASS	A	B
1	50.000	2576.	3.75
2	50.938	7048.	10.26
4	51.938	3200.	4.66
7	53.063	1776.	2.59
9	62.063	972.	1.42
10	63.125	2812.	4.09
13	65.125	4264.	6.21
16	74.125	744.	1.08
19	77.063	8936.	13.01
20	78.125	3720.	5.42
22	79.063	6396.	9.31
26	89.062	1140.	1.66
28	91.000	68684.	100.00
29	92.063	5520.	8.04
31	102.000	828.	1.21
32	103.000	4732.	6.89
33	103.188	732.	1.07
34	104.000	1704.	2.48
35	105.063	17048.	24.82
36	106.125	36808.	53.59
37	107.125	3404.	4.96

\*\*\*\*\* SLIST PROCESSING COMPLETE \*\*\*\*\*



THE UNIVERSITY OF WISCONSIN-MILWAUKEE/P.O. Box 413, Milwaukee, Wisconsin 53201

COLLEGE OF LETTERS AND SCIENCE  
DEPARTMENT OF CHEMISTRY

PHONE: (414) 963-4411

To: Joe Polywacz  
Hazleton Laboratories

From: James Otvos, Asst. Professor *[Signature]*

Re: NMR analysis of LIMS #'s 60301753-60301754 and  
60302709-60302711 *HLA-VA*

Date: April 21, 1986

Enclosed are  $^1\text{H}$  NMR spectra of p-xylene(60302709), m-xylene(60302710), and o-xylene(60301754) in deuteriochloroform solvent which positively confirm their identities. The o-xylene sample was labeled "o-xylol", but is in fact xylene. An unexpected peak at 2.21 ppm was found in the p-xylene sample which was attributed to a solvent contaminant (probably  $\text{H}_2\text{O}$ ) since a  $^{13}\text{C}$  NMR spectrum of the same sample failed to exhibit any extra resonances. The three xylene samples are at least 98% pure as judged by the intensities of several small resonances of unknown origin in the spectra.

$^{13}\text{C}$  spectra were taken of the remaining two samples, strychnine (60301753) and brucine(60302711), because they are much more diagnostic of the structures of these compounds compared to  $^1\text{H}$  spectra. As the enclosed spectra indicate, the samples are pure. The number of resonances observed in each spectrum and their chemical shifts confirm the identities of the two compounds.

RECEIVED

APR 23 1986

HLA Madison

4117 OAKTON STREET  
SKOKIE, ILLINOIS 60076

to: Mr. L. Evarts  
Hazleton Laboratories America, Inc.  
3301 Kinsman Boulevard  
P.O. Box 7545  
Madison, Wisconsin 53704

Very truly yours,

June B. Gast



**HAZLETON**

LABORATORIES AMERICA, INC

Chemical & BioMedical Sciences Division

3301 KINSMAN BLVD. • P.O. BOX 7545 • MADISON, WISCONSIN 53707 • PHONE (608) 241-4471 • TLX 703956 HAZRAL MDS UD

**REPORT OF ANALYSIS**

LEE HOHING  
HAZLETON BIOTECHNOLOGIES CORPORATION  
9200 LEESBURG TURNPIKE  
VIENNA, VA 22180

SAMPLE NUMBER: 60706248

DATE ENTERED: 07/30/86

REPORT PRINTED: 10/29/86

P-XYLENE: RO-0216-86 REFERENCE CHEMICAL

PURCHASE ORDER NUMBER: 0A12550

SEE ATTACHED CHROMATOGRAMS

**METHOD REFERENCES**

METHOD LISTED ABOVE WITH RESULTS



**HAZLETON**

LABORATORIES AMERICA, INC

- 495 -

Chemical &amp; BioMedical Sciences Division

3301 KINSMAN BLVD. • P.O. BOX 7545 • MADISON, WISCONSIN 53707 • PHONE (608) 241-4471 • TLX 703956 HAZRAL MDS UD

**REPORT OF ANALYSIS**

LEE HOHING  
HAZLETON BIOTECHNOLOGIES CORPORATION  
9200 LEESBURG TURNPIKE  
VIENNA, VA 22180

SAMPLE NUMBER: 6070624

DATE ENTERED: 07/30/8

REPORT PRINTED: 10/29/8

P-XYLENE: R0-0931-86 BULK CHEMICAL

PURCHASE ORDER NUMBER: 0A12550

SEE ATTACHED CHROMATOGRAMS

**METHOD REFERENCES**

METHOD LISTED ABOVE WITH RESULTS

Study No(s)	NA		Assay Method(s)	OSK
Attached to	NA			
Typed (Analyst)	JA	JA 0-28-K		
Analysis technique	K			
Pump No	NA	NA	NA	
Recorder No	NA	08000052	NA	
Channel No	NA	NA	NA	
Sample No				

Operator	J. H. Schuch	Date	10-28-66
Column	6'	Detector	FID
Length	2 mm	Range	100
Phase	SP1200/Bentone	Atten.	4
Flow Rate	5/1.75	Flow Rates, ml/min.	
Port	50 micropore	Hydrogen	50
Mesh	100/120	Air	200
Carrier Gas	Helium	St. Valve	-
Rotameter	22	Hold	-
Inlet Press	200	Temperature, °C	
Rate	40	Inj	200
CHART SPEED	low 0.5	Column Temp	75
SAMPLE	M-XYLENE, P-XYLENE	Flow	NA
Size	1 µl	Peak	2.7 min

60706238

60706239

60706242

60706243

60706243 Run 04 1st of 0.01 ml p-xylene in 1 ml empty vial for 10-24-72

60706242 Run 03 1st of 0.01 ml p-xylene in 1 ml empty vial for 10-28-72

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**APPENDIX 10**  
**Study Protocol and Amendments**



# HAZLETON

LABORATORIES AMERICA, INC.

1330 - B PICCARD DRIVE  
ROCKVILLE MARYLAND 20850

PROJECT NO. 2399-110 DATE ISSUED April 7, 1986

PROPOSAL NO. 5-580 STUDY TITLE: Subchronic Toxicity Study in Rats

TEST MATERIAL (s): Safety, storage, and descriptive information is attached.

A. Identification P-Xylo1 (P-Xylene)  
B. Lot No. (s) 235855 385  
C. Receipt Date March 6, 1986  
D. LH Number (s) 10,032A

STUDY LOCATION: Rockville

PROPOSED INITIATION DATE: April 17, 1986  
PROPOSED COMPLETION OF  
IN-LIFE PHASE DATE: July 17, 1986

DISTRIBUTION: ORIGINAL SIGNED PROTOCOL TO PSO

FIXED DISTRIBUTION: (No. Copies)\*

PERFORMING DEPARTMENTS (~~4 copies each~~)

Health Services (1) Quality Assurance (1)  
Compound Prep (Tox) (1) Contracts (1)  
Scientific Res. (Tox) (2) (1) Client Services (1)  
Lab Animal Medicine (1) Sponsor (1)

Toxicology (2) Analytical Chemistry (1)  
Pathology (4)

\* Unless otherwise directed.

Protocol is Attached.

Date and Means of Sponsor Authorization:

Signed protocols to be forwarded by sponsor.

This protocol issued to permit scheduling of the study by the laboratory.

STUDY DIRECTOR: Gary W. Wolfe, Ph.D., D.A.B.T.

DATE: 4/9/86



PROTOCOL

Project No. 2399-110

1. Study Subchronic Toxicity Study in Rats
2. Purpose To evaluate the subchronic toxicity of a test material when administered daily via oral gavage to rats for 90 days.
3. Study Location Hazleton Laboratories America, Inc.  
1330-B Piccard Drive  
Rockville, Maryland 20850
4. Sponsor and Address Dynamac Corporation  
11140 Rockville Pike  
Rockville, Maryland 20852
5. HLA Study Director Gary W. Wolfe, Ph.D., D.A.B.T.
6. HLA Study Coordinator Marcia P. Rodwin, B.A.
7. Regulatory Compliance This study is subject to applicable regulations of the Environmental Protection Agency and will be conducted per EPA Pesticide Assessment Guidelines, Subdivision F, Section 158.82-1, Toxic Substances Control Act (TSCA) Testing Guidelines for Ninety Day Subchronic Toxicity Studies, 40 CFR 798.2650, and in accordance with the Good Laboratory Practice Standards, 40 CFR Part 160.
8. Quality Assurance The protocol, in-life phase, interim report and the final report will be audited by Quality Assurance in accordance with standard operating procedures at Hazleton Laboratories.
9. Proposed Study Timetable  
Initiation: April 17, 1986  
Terminal Sacrifice: July 17, 1986  
Final Report: September 12, 1986



**HAZLETON**

LABORATORIES AMERICA, INC.

1330 - B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

- 500 -

- 2 -

Project No. 2399-110

10. Test Material

A. Identification

p-Xylene (CAS 106-42-3)

B. Purity

99%

C. Characteristics

Purity and identity will be determined prior to study initiation, and purity only at termination. (If identity has been established for a 14-day study then only purity needs to be determined prior to start of 90-day study.)

D. Reserve Samples

Reserve samples (4 x 10 g) of the test and control articles will be taken at initiation and retained frozen. These archived samples of the test article will serve as reference standards for subsequent purity analyses. These samples, as well as any remaining test material, will be discarded upon acceptance of the study results for regulatory purposes (May 8, 1987).

11. Experimental Design

A. Animals

(1) Species

Rat

(2) Strain/Source

Sprague-Dawley/Charles River

(3) Age at Initiation

Preferably before 6 weeks of age, but not more than 8 weeks of age.

(4) Number/Sex

80/sex

(5) Identification

Individual eartags

(6) Husbandry

(a) Housing

Individual

- (b) Food      Purina Certified Rodent Chow<sup>®</sup> 5002, ad libitum. Feed is analyzed by the manufacturer for concentrations of specified heavy metals, aflatoxin, chlorinated hydrocarbons, organophosphates, and specified nutrients. (See Attachment #1 for details).
- (c) Water      Acidified water, ad libitum. Water is analyzed twice per year for contaminants as listed in the EPA drinking water standards.
- (d) Contaminants      The study director and/or the sponsor have considered possible interfering substances potentially present in animal feed and water, including the test material itself or possible structurally related materials as well as the items listed in (b) and (c) above. None of these contaminants are reasonably expected to be present in animal feed or water at levels sufficient to interfere with this study.
- (e) Environment      Every attempt will be made to maintain temperatures at 69 - 78°F with a relative humidity of 50 ± 20%. A 12-hour light/12-hour dark cycle will be maintained. Temperature and humidity will be recorded twice daily.
- (f) Quarantine      Approximately two weeks. Animals selected for study will have been determined to be acceptable for admission to the study.
- (7) Randomization      Using computer-generated random numbers with assignment to groups. At the time of randomization, the weight variation of the animals of each sex used should not exceed ±2 S.D. of the mean weight, and the mean body weights for each group of each sex will not be statistically different.



(8) Justification

Sprague-Dawley rats historically have been used in safety evaluation studies and are requested by EPA.

B. Group Designation and Dosage Levels

<u>Group No.</u>	<u>No. of Animals</u>		<u>Dosage Levels</u> mg/kg/day
	<u>Male</u>	<u>Female</u>	
1 (Control)	20	20	0
2 (Low)	20	20	100
3 (Mid)	20	20	200
4 (High)	20	20	800

C. Dosing Procedures

(1) Method of  
Administration

Oral gavage, 7 days per week for 13 weeks. Treatment will continue until the day before necropsy.

(2) Reason for Dosing  
Route

Potential human exposure is by the oral route.

(3) Preparation of Dosing  
Formulations

Fresh dosing formulations will be prepared based on stability study. Dosing formulations will be prepared using corn oil and adjusted to 100% compound activity. Dosing factor will be 2.5 ml/kg. Reserve samples from each mixed batch will be retained for possible analysis. These samples will be discarded upon acceptance of the final report.

(4) Analysis of Dosing  
Formulations

(a) Stability

Samples of the lowest level will be analyzed at Day 0 and after 7, 14, and 21 days under conditions of use and under refrigeration.

(b) Homogeneity

If the dosage formulation is a suspension, homogeneity of each formulation will be confirmed by analyzing the top, middle, and bottom of each formulation prior to study initiation. If the dosage formulation is a single phase, no homogeneity is required.



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(c) Routine Analyses

Each dosage formulation for weeks 1, 5, 9, and 13 will be analyzed for test material.

(5) Absorption

Though the purpose of this study is not to determine absorption of the test material, toxic or pathologic effects will serve as evidence of absorption.

D. Observation of Animals

(1) Clinical Observations

Twice daily - mortality and morbidity check.

Once daily - cageside observation for obvious indications of a toxic effect, will be recorded about one hour after completion of dosing. In addition, a cursory exam will be conducted while dosing.

Data for specific observations will be recorded on separate forms. Because these are cageside animal checks, the observations will not be as specific as and may not necessarily duplicate those observations recorded on body weight days when thorough physical examinations are conducted.

(2) Physical Examinations

At each weighing interval.

(3) Body Weights

Prior to treatment, at initiation and weekly thereafter.

(4) Food Consumption

Weekly

(5) Ophthalmoscopic Examinations

Prior to treatment and during week 13 using indirect ophthalmoscopy on the last ten animals per sex per group.

E. Clinical Pathology

(1) Frequency

Prior to initiation and during weeks 4 and 13.

Blood will be collected via orbital sinus with CO<sub>2</sub> anesthetization.

(2) Number of Animals

(a) Prior to initiation

5/sex randomly selected from animals acceptable for study but not used on study.

(b) During Weeks 4 and 13

10/sex/group (sampled per SOP)

(3) Tests

(a) Hematology

leukocyte count  
erythrocyte count  
hemoglobin  
hematocrit  
platelet count  
differential leukocyte count  
reticulocyte count

(b) Blood Chemistry

sodium  
potassium  
chloride  
total protein  
albumin  
calcium  
phosphorus  
total bilirubin  
urea nitrogen  
creatinine  
glucose  
SGOT/AST  
SGPT/ALT  
globulin  
alkaline phosphatase  
cholesterol  
albumin/globulin ratio  
LDH



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**F. Termination**

**(1) Unscheduled Sacrifices and Deaths**

Necropsies, by trained personnel using procedures approved by board-certified pathologists, will be conducted on all moribund animals and on all animals that die.

**(2) Terminal Kill**

After 13 weeks of treatment, all surviving animals will be weighed, killed by CO<sub>2</sub> intoxication and subjected to a complete gross necropsy. Necropsies will be conducted by trained personnel under the direct supervision of a board-certified pathologist.

**G. Postmortem Procedures**

**(1) Gross Necropsy**

The necropsy will include examination of:

The external surface

All orifices

Cranial cavity

Carcass

External surface of the brain (at necropsy). Cut surfaces of the brain and spinal cord will be examined at the time of tissue trimming.

The thoracic, abdominal and pelvic cavities and their viscera

The tissues and organs of the neck region

Findings will be recorded.

**(2) Organ Weights**

For each terminally killed animal, the following organs will be weighed following careful dissection and trimming to remove fat and other contiguous tissue in a uniform manner:

liver

kidneys

spleen

adrenals

testes/ovaries

brain

heart



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### (3) Tissue Preservation

The following tissues from each animal will be preserved in 10% neutral buffered formalin:

all gross lesions	kidneys	skin
brain with brainstem	adrenals	epididymis
(medulla/pons, cerebellar cortex, and cerebral cortex)	pancreas	prostate
pituitary	testes	seminal vesicles
thyroid with parathyroids	ovaries	
thymus	uterus	
lungs	spleen	
trachea	aorta	
heart	esophagus	
salivary glands	stomach (forestomach and glandular)	
(mandibular)	duodenum, jejunum, ileum	
liver	colon, cecum, rectum	
sternum with bone marrow	urinary bladder	
mammary gland	mesenteric lymph node	
thigh musculature	sciatic nerve	
eyes	femur including articular surface	
	cervical spinal cord	
	mid-thoracic spinal cord	
	lumbar spinal cord	
	exorbital lacrimal glands	

Electron microscopy will be conducted on livers from control, 200, and 800 mg/kg groups. Detailed methodology will be issued as an amendment to the protocol.

### (4) Histopathology

All preserved tissues from all animals will be embedded in paraffin, sectioned, and stained with hematoxylin and eosin.

The following tissues will be examined microscopically:

- (1) All tissues from control and high-dose animals and from all animals not surviving to termination.
- (2) Gross lesions, lungs, liver, and kidneys from all remaining animals.
- (3) Target organs noted at the high-dose level from all animals.

## 12. Reports

Following termination of the study, a report which includes the following information (as appropriate) will be prepared and submitted:

- Experimental Design and Methods

- Results:

mortality  
clinical observations  
body weights and  
food consumption  
clinical pathology tests

ophthalmoscopic findings  
organ weights and organ/body  
weight ratios  
gross pathology  
histopathology

- Statistical Analyses:

Statistical methods will be those presented in Attachment #2.

- Statistical Evaluation:

survival rates  
growth rates and/or absolute  
body weights  
total food consumption

clinical pathology values  
organ weights and organ/  
body weight ratios

- Tables:

mean food consumption values  
cumulative survival rates and  
mean body weights  
summary of clinical  
signs for each test group  
to include: a list of each  
finding and number of  
animals affected

summary incidence of  
ophthalmoscopic findings  
mean clinical pathology values  
mean organ weights and organ/  
body weight ratios  
summary incidence of gross  
pathology findings  
summary incidence of  
histopathology findings



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- Appendices

week of death for each animal  
individual body weights  
individual food consumption  
individual clinical signs  
for each animal to include:  
the week of observation of  
each sign, a description  
of each sign, and its  
subsequent course  
individual clinical  
pathology values

individual ophthalmoscopic  
findings  
individual organ weights and  
organ/body weight ratios  
individual gross pathology  
findings  
individual histopathology  
findings  
analytical chemistry methods and  
results

The final report, or a draft copy of such, will be reviewed by the sponsor within 1 month after receipt. Any revisions or comments will be submitted to Hazleton within this period.

13. Record Retention

All tissue specimens, blocks and slides, and copies of all raw data and the final report will be retained by Hazleton Laboratories. Tissue specimens will be discarded as per work assignment.



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SIGNATURE PAGE

APPROVED BY:

Hazleton Laboratories America, Inc.:

Gary W. Wolfe  
Study Director, Toxicology

Date: 3/14/86

Gary W. Wolfe  
Program Manager, Toxicology

Date: 3/14/86

Sponsor:

Sharon A. Sigel

4-23-86





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ATTACHMENT #1

CONTAMINANT ANALYSIS FOR CERTIFIED RODENT CHOW® 5002 AND WATER

This information identifies the potential contaminants monitored for both laboratory feed and water. The Certified Rodent Chow data are provided by the manufacturer.

1. Certified Rodent Chow® 5002 certification profile:

<u>Heavy Metals</u>	<u>Maximum Concentration</u>
Arsenic	1.0 ppm
Cadmium	.5 ppm
Lead	1.5 ppm
Mercury	.2 ppm
<u>Aflatoxin</u>	10 ppb
<u>Chlorinated Hydrocarbons and PCB</u>	
Aldrin	.05 ppm
Dieldrin	.05 ppm
Endrin	.05 ppm
Heptachlor	.05 ppm
Heptachlor Epoxide	.05 ppm
Lindane	.05 ppm
Chlordane	.05 ppm
DDT-Related Substances	.15 ppm
PCB	.15 ppm
<u>Organophosphates</u>	
Thimet	.5 ppm
Diazinon	.5 ppm
Disulfaton	.5 ppm
Methyl Parathion	.5 ppm
Malathion	.5 ppm
Parathion	.5 ppm
Thiodan	.5 ppm
Ethion	.5 ppm
Trithion	.5 ppm



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ATTACHMENT #1 (Continued)

2. Standard contaminant analysis for water includes:

Barium	DDE, DDD, DDT
Cadmium	PCB
Chromium	Dieldrin
Copper	BHC
Fluorine	Lindane
Iron	HCB
Lead	Endrin
Manganese	Heptachlor Epoxide
Mercury	2,4-D
Selenium	Silvex (2,4,5-TP)
Sodium	Color Test
Sulfate	Turbidity
Ammonia	Arsenic
Total Nitrogen	Silver
Chloride	Zinc



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ATTACHMENT #2

Analysis of Data

If appropriate, cumulative survival will be analyzed using the National Cancer Institute Package. Trend analysis of survival will be evaluated at the 5.0% one-tailed probability level. Control vs. test group comparisons of survival will be evaluated at the 5.0% one-tailed probability level if trend analysis is significant or at the 5.0% two-tailed probability level if trend analysis is not significant.

Growth rates and other data will be analyzed in the order presented in the flowchart. Tests for homogeneity of variances, ANOVA and the Terpstra-Jonckheere Nonparametric Test for Trend will be evaluated at the 5.0% one-tailed probability level.



ATTACHMENT #3

Protocol Addendum

ANALYTICAL CHEMISTRY

Introduction

The purpose of this work is to provide chemical support for the bioassay studies. This support consists of purity, identity and stability of the bulk compound and development of a method to determine the concentration stability and homogeneity (when indicated) in the dosing vehicle. If the dosing vehicle is corn oil, determination of peroxides in the corn oil will be carried out.

Chemical Characterization of Test Article

The physical appearance will be noted and the source of the chemical together with the manufacturer's stated purity will be reported. The following spectral techniques will be employed initially: Infrared (IR), nuclear magnetic resonance (NMR) and mass spectrometry (MS). Spectra obtained will be compared to literature references<sup>1</sup> and consistency to expected structure. Elemental analysis and determination of water using the Karl Fischer technique will be carried out. A gas chromatographic (GC) technique will be used to assess purity and compared, whenever possible, to known reference standards, if available. Reference samples will be taken on receipt of chemicals and stored frozen for future reanalysis. The GC scan for purity will be carried out and compared to the reserve sample after 4 months (or on receipt of chemical, at the end of the 14-day study and at the end of the 90-day study if more than 4 months have elapsed). Thus, the integrity of and purity of the test article throughout the study will be documented. It is important to choose a GC column that will effectively separate the o-, m-, & p-isomers (see Methodology).

Determination of the Test Article in the Dosing Vehicle

Method Validation

A four-point standard curve will be used (excluding 0). Matrix standards and/or spike recoveries will be used if applicable. Imprecision of the low and high standard will be reported as percent relative standard deviation (% RSD) (n=4) and the middle standards will be analyzed twice. The % RSD should be less than 5%. Linear regression analysis will be carried out of the results of the standard curve.

<sup>1</sup>Sadtler Standard Spectra, Philadelphia, PA.



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ATTACHMENT #2 (Continued)

Prior to the study start, compound preparation will mix the low and the high dosage groups. These samples will be analyzed on two different days (HBC protocol). The dosing vehicle will be corn oil and hence analysis of the corn oil for peroxides will be conducted monthly.

Homogeneity

If more than one phase is present, duplicate analyses of homogeneity will be conducted at the high and low dosage group on samples taken from the top, middle and bottom of the mix. Homogeneity analyses will be repeated if the size of mix changes.

Stability

Stability of the test article in the dosing vehicle will be established on the low and high dosage groups at days 0, 7, 14, and 21 at two temperatures -- refrigerated and under conditions of use.

Concentration Analysis

Doses will be mixed at least weekly (or more often if indicated by stability data). Samples will be analyzed in duplicate prior to dosing on weeks 1, 5, 9 and 13 of the 90-day study.

Analyses will be repeated by the chemist if the duplicates are greater than 10% apart. If the results are greater than 10% from target the study director will be notified.

Methodology

It is proposed to analyze the samples for p-xylene by GC using a column containing Bentone<sup>®</sup> 34. This has been used for many years to separate the xylenes. A new packing 5% SP-2100 1.75% Bentone 34 can apparently reduce the analysis time by 50% without any loss of resolution. We propose to use a Hewlett-Packard 5880A GC equipped with an autosampler, a microprocessor-controlled data module and a flame ionization detector. We propose to use n-propyl benzene as an internal standard.

Reports

A brief interim progress report on chemistry will be issued prior to study start, followed by a more formal format as soon after the start as feasible. Concentration analyses will be reported on HLA/HBC Form 55 -- Analysis Report and Request Form. These reports will be incorporated into the final study report.

PRODUCT DESIGNATION

Xylene

MATERIAL

SAFETY DATA SHEET

SECTION 1. SOURCE & NOMENCLATURE

SPONSOR'S NAME		EMERGENCY TELEPHONE NO.	
ADDRESS (Number, Street, City, State, Zip Code)			
MOLECULAR WEIGHT 106.2		CHEMICAL FAMILY Aromatic Hydrocarbon	
CHEMICAL NAME AND SYNONYMS Xylol, Dimethyl benzene		FORMULA $C_6H_4(CH_3)_2$	

(Mixture of ortho, meta and para isomers of Xylene)

SECTION 2. HAZARDOUS INGREDIENTS

BASIC MATERIAL	APPROXIMATE OR MAXIMUM % WT. OR VOL.	ESTABLISHED OSHA STANDARD	LD <sub>50</sub>		SPECIES	LD <sub>50</sub> CONC.
			ORAL	PERCUT.		
Xylene		100 ppm	X		rat	4300 mg
		= TLV				
		150 ppm				
		= STEL *				
* STEL = Short Term Exposure Limit - the max allowable conc. not to be exceeded at any time during the 15 min. excursion limit						

For m. Xylene:

SECTION 3. PHYSICAL DATA Meta is the major component of commercial Xylene

BOILING POINT (°F) 282° F	VAPOR PRESSURE (mm Hg.) 10 mm @ 28.3°C
MELTING POINT (°F) -54° F	VAPOR DENSITY (Air=1) 3.66
SPECIFIC GRAVITY (H <sub>2</sub> O=1) 0.87	EVAPORATION RATE ( _____ =1)
SOLUBILITY IN WATER (Pts/100 pts H <sub>2</sub> O) Insoluble	VOLATILE % Vol. % Wt.
APPEARANCE Clear liquid AND ODOR Similar to benzene and toluene	SOLVENTS Organic solv.

SECTION 4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT METHOD USED 84°F	Ignition temperture: 982° F	FLAMMABLE (EXPLOSIVE) LIMITS	UPPER 7.0 LOWER 1.1
EXTINGUISHING MEDIA Use Dry Chemical. Water maybe ineffective because of low flash point			
SPECIAL FIRE FIGHTING PROCEDURES Wear full-face mask self-contained breathing apparatus which provides eye protection.			
UNUSUAL FIRE AND EXPLOSION HAZARDS Material can be ignited under almost all normal temperature conditions. Vapors form explosive mixtures in air. Avoid flame, heat, sparks.			
Vapor may travel a considerable distance to a source of ignition and flash back.			

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MATERIAL SAFETY DATA SHEET

**SECTION I**

Manufacturer's Name \_\_\_\_\_ Emergency Phone No. \_\_\_\_\_  
Address (No., Street, City, State, Zip Code) \_\_\_\_\_

Chemical Name and Synonyms <u>Xylene</u> (Xylol, Ethyl Benzene)	Trade Name and Synonyms _____
Chemical Family <u>Aromatic Hydrocarbon</u> may be mixture of O-, M-, and P-Xylenes	Formula <u>C<sub>6</sub>H<sub>4</sub> (CH<sub>3</sub>)<sub>2</sub></u>

**SECTION II HAZARDOUS INGREDIENTS**

Paints, Preservatives, & Solvents	%	TLV (Units)	Alloys and Metallic Coatings	%	TLV (Units)
Pigments			Base Metal		
Catalyst			Alloys		
Vehicle			Metallic Coatings		
Solvents			Filler Metal plus Coating or Core Flux		
Additives			Others		
Others					
Hazardous Mixtures of Other Liquids, Solids and Gases				%	TLV (Units)

**SECTION III PHYSICAL DATA**

Boiling Point (° F.)	291	Specific Gravity (H <sub>2</sub> O = 1)	0.9
Vapor Pressure (mm Hg.) 8mm Hg @	72°	Percent Volatile By Volume (%)	
Vapor Density (Air = 1)	1.1	Evaporation Rate ( = 1)	
Solubility in Water <u>Insol.</u>			
Appearance and Odor			

**SECTION IV FIRE AND EXPLOSION HAZARD DATA**

Flash Point (Method Used) 81°-90°F	Flammable Limits	Lel	Uel
		1%	7%
Extinguishing Media	Dry chemical, carbon dioxide, foam		

Special Fire Fighting Procedures Avoid contact with skin, wear self-contained breathing apparatus.

Fire and Explosion Hazards \_\_\_\_\_



PRODUCT DESIGNATION Xylene

### SECTION 5. HEALTH HAZARD DATA (IF AVAILABLE)

TOXIC LEVEL	Inhalation - human $TCLO^*$ : 200 ppm * $TCLO$ = lowest published toxic con.	CARCINOGENIC	No
PRINCIPAL ROUTES OF ABSORPTION	Lungs	SKIN AND EYE IRRITATION	Skin irritant
RELEVANT SYMPTOMS OF EXPOSURE	Local irritation, CNS excitation and depression. Transient euphoria, headache, giddiness, vertigo, ataxia and tinnitus, confusion.		
EFFECTS OF CHRONIC EXPOSURE	Rabbits chronically exposed developed a decrease in the number of red blood cells and leucocytes and an increase in the platelet count.		
EMERGENCY AND FIRST AID PROCEDURES	Remove from exposure. Wash affected body areas with copious amounts of soap and water. If eye is contaminated, flush with water for at least 15 mins. Notify Medical Office immediately		

### SECTION 6. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY	Normally stable
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION	None expected
INCOMPATIBILITY (Materials to Avoid)	Avoid oxidizing materials
HAZARDOUS DECOMPOSITION PRODUCTS	None expected

### SECTION 7. SPILL OR LEAK PROCEDURES Eliminate all sources of ignition and flammability

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Wearing full-face canister gas mask, lab coat, rubber gloves, confine spill, absorb on toweling or bedding and place in impervious container
WASTE DISPOSAL METHOD	Incineration

### SECTION 8. SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS	Transfer operations	PROTECTIVE EQUIPMENT (Specify Types)
LOCAL EXHAUST	Should be done in chemical fume hood.	EYE Goggles
MECHANICAL (General)	Required	GLOVES Rubber gloves (neoprene)
SPECIAL	Inhalation chambers for test system	RESPIRATOR Half-face respirator with cartridge effective against organic vapors.
OTHER PROTECTIVE EQUIPMENT	Lab coat	

### SECTION 9. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	Protect against physical damage. Outside or detached storage is preferable. Inside storage should be in a standard flammable liquids storage room or cabinet.
OTHER PRECAUTIONS	Separate from oxidizing materials.

Signature <i>Joseph A. Carr</i> <i>Office of Occupational Safety and Health</i>	Date 8/22/77	Address Office of Occupational Safety and Health
---	-----------------	---

### SECTION V HEALTH HAZARD DATA

Threshold Limit Value 100 ppm

Effects of Overexposure Irritant to mucous membranes, Gastrointestinal disturbances, skin irritant, erythema, defatting on skin contact, eye irritation at 200 ppm.

Emergency and First Aid Procedures Remove from exposure. Administer oxygen if respiratory distress. Call physician immediately. On skin contact wash with soap and water. Discard wetted clothing.

### SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (materials to avoid) Can react with oxidizers

Hazardous Decomposition Products

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

### SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Confine spill. Absorb on paper or bedding. Place into impervious container.

Waste Disposal Method Incineration

### SECTION VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify type) Half-mask respirator with organic vapor cartridges up to 10X TLV gask mask and conister at higher concentrations.

Ventilation	Local Exhaust Transfer operations in chemical fume hood.	Special
	Mechanical (General)	Other

Protective Gloves Impervious gloves Eye Protection Avoid eye and face contact, wear goggles or face shield.

Other Protective Equipment Protective clothing.

### SECTION IX SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing Store in well-ventilated area. Away from heat, a.c.s.

Other Precautions

PROTOCOL AMENDMENT



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1330 - B PICCARD DRIVE  
ROCKVILLE MARYLAND 208

PROJECT NO. 2399-110 AMENDMENT NO. 1 DATE EFFECTIVE: May 20, 1986

STUDY TITLE: Subchronic Toxicity Study in Rats with P-Xylene

DISTRIBUTION: ORIGINAL SIGNED PROTOCOL TO PSO

FIXED DISTRIBUTION: (No. Copies)\*

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Lab Animal Medicine (1)	Sponsor (1)

<u>Toxicology (2)</u>	<u>Analytical Chemistry</u>
<u>Pathology (5)</u>	<u>                                    </u>

\* Unless otherwise directed.

Date and Means of Sponsor Authorization (if appropriate):

Amendment:

Signed protocol forwarded by sponsor (signature page attached).

STUDY DIRECTOR: Gary W. Wolfe  
DATE: 5/20/86  
Gary W. Wolfe, Ph.D.



**HAZLETON**

LABORATORIES AMERICA, INC.

1330-B PICCARD DRIVE, ROCKVILLE, MARYLAND 20850

Project No. 2399-110

SIGNATURE PAGE

APPROVED BY:

Hazleton Laboratories America, Inc.:

Gary W. Wolfe  
Study Director, Toxicology

Date: 3/14/86

Gary W. Wolfe  
Program Manager, Toxicology

Date: 3/14/86

Sponsor:

Shawn A. Segel

4-23-86

PROTOCOL AMENDMENT



**HAZLETON**  
LABORATORIES AMERICA, INC.

1330 - B PICCARD DRIVE  
ROCKVILLE, MARYLAND 20850

PROJECT NO. 2399-110 AMENDMENT NO. 2 DATE EFFECTIVE: 6/30/86

STUDY TITLE: Subchronic Toxicity Study in Rats with p-Xylene

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Lab Animal Medicine (1)	Sponsor (1)

Toxicology (2) Analytical Chemistry (1)

Pathology (3) \_\_\_\_\_

\* Unless otherwise directed.

Date and Means of Sponsor Authorization (if appropriate):

Amendment:

1. Page 4, 11.C. (4) (a): Samples of the lowest and highest levels will be analyzed for stability.  
Reason: Changed to agree with Attachment #3 (page 16), "Stability".
2. Page 7, 11.F. (2): Animals will be killed by exsanguination under sodium pentobarbital anesthesia.  
Reason: Requested by Sponsor.
3. Page 7, 11.G. (2): Organ weights will not be recorded for those animals selected for electron microscopy.  
Reason: Because of whole-body infusion, weights would not be comparable.
4. Page 7, 11.G. (2): Testes will be weighed with epididymis.  
Reason: Not previously specified.
5. Page 8, 11.G. (3): Electron microscopy will be performed on 5 animals/sex in the control group and 10 animals/sex in all treated groups.  
Reason: Requested by Sponsor.
6. Page 16, Heading: Should read "Attachment #3 (continued)".  
Reason: Typographical error.

STUDY DIRECTOR: Larry W. Wolfe

DATE: 7-7-86

